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ABSTRACT

This final report is the result of a survey requested by the United States Agency for International Development (USAID) and undertaken by the Organization for Rehabilitation through Training (ORT) of four countries (Cameroon, Chad, Central African Republic, and Gabon) and a conference on vocational training sponsored by the Economic and Customs Union of Central Africa (UDEAC). Four parts are contained within the report. Part 1 consists of an introduction explaining the origins of the survey, how the conclusions were established, the purpose of the study, and the methodology used. General conclusions and recommendations are also included, together with an inventory of existing institutions in the region and a list of abbreviations. Part 2 deals with the project proposals, among which are the creation of (1) a regional center for the training of automation technicians, (2) a marine merchant school, (3) a training center for taxidermists, (4) a training center for computer programmers and analysts, (5) a training center for technicians in industry and education, (6) a technical teacher training institute, (7) hotel trade and hunting guide schools, (8) a training school for watch and instrument repair, and (9) an agricultural mechanics training center. Part 3 contains results of each survey, including facility inventories, manpower and training needs estimates, and conclusions and recommendations. The UDEAC conference report is found in part 4. (NJ)

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TECHNICAL EDUCATION
AND
VOCATIONAL TRAINING
IN
CENTRAL AFRICA

VT-103-548

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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FEASIBILITY SURVEY
OF THE REGIONAL DEVELOPMENT
OF RAPID VOCATIONAL TRAINING

CAMEROON, CENTRAL AFRICAN REPUBLIC,
CHAD AND GABON

1969/1970

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PART ONE : GENERAL

INTRODUCTION

FOREWORD

The United States Agency for International Development (AID) requested ORT (Organization for Rehabilitation through Training) to undertake a feasibility survey of the regional development of rapid vocational training in Cameroon, the Central African Republic, Chad and Gabon. The survey was to emphasize the identification of the nature and extent of needs for training to meet skilled and middle-level manpower requirements, and the development of suggested program plans based on a regional approach. The selection of ORT was based on the extensive experience of the organisation in this field, in Africa and elsewhere.

To undertake this survey, ORT sent two experts, Mr. Eugene B. Abrams and Mr. Simon Guedj, to the region in the summer of 1969.

The experts prepared a preliminary report following their visit. This preliminary report served as the basis for a conference, which was held in Bangui on October 29 and October 30, 1969, on the vocational training needs of the region. The conference was sponsored by the Economic and Customs Union of Central Africa (UDEAC). UDEAC members Cameroon, the Central Africa Republic and Gabon took part in the meeting, and Congo (Brazzaville) was represented by an observer. Chad also participated.

This final report is the result of the survey and the conference, and takes account of the opinions expressed by the participants in the conference. The conference was the first meeting of its kind to be held in the region. It established the basis for continuing regional collaboration on questions of vocational training and technical education.

The final communique of the conference expressed the wish of the participants that their recommendations would be implemented with the least possible delay. This final report is being submitted to the United States Agency for International Development and to other governments as well as to private bodies, with a view to the sponsorship and financing of the project proposals which this report contains.

THE REGION COVERED BY THE REPORT

The four countries surveyed in this report, Cameroon, Chad, Central African Republic and Gabon, cover an area of 2,641,000 square kilometers (1,115,000 square miles) or a slightly larger than Argentina. The area is a varied one, ranging from tropical rain forest in Gabon in the south, through savannah and bush in the C.A.R., northern Cameroon and southern Chad, to the deserts of northern Chad. The population is relatively sparse, thinning out away from the coastal areas. The total population of the area is estimated at just over 10 million. It is growing at a rate of about 2 percent per year. Over four-fifths of the population live in rural areas.

Agriculture is the principal occupation for the large majority of the population, mainly in such principal staple crops as cassava, millet, peanuts and sorghum. In Chad and northern Cameroon cattle raising is of considerable importance.

Most of the area is lacking in natural resources, except for Gabon where considerable amounts of uranium, petroleum, manganese and timber are produced and exported. Extensive deposits of high-grade iron ore are also about to be exploited. Diamonds are mined in the C.A.R.

The industrial sector is now beginning to develop, concentrated mainly on processing of agricultural and forest products, and consumer goods industries for local consumption.

The educational system at primary, secondary and technical levels, is patterned fairly closely on that of France. Institutions of technical education and vocational training in the region are, for the most part, concentrated in the urban areas, although efforts are also being made in the field of rural technical education.

THE STRUCTURE OF THE REPORT

Part One of the report consists of this introduction which explains the origins of the survey, how the conclusions were arrived at, the purpose of the study and the methodology used. Thereafter, the general conclusions and recommendations are given, together with an inventory of existing institutions in the region, and a list of abbreviations.

Part Two consists of the project proposals.

Part Three is the four country surveys, to serve as reference material for the recommendations and project proposals. Each country survey starts with an inventory of existing capabilities and is followed by an estimate of needs. The conclusions and recommandations in respect of that country end each section.

Part four consists of the agenda, minutes and other material of the UDEAC conference at Bangui.

METHODOLOGY

In accordance with its agreement with AID, ORT undertook the survey in the following manner :

1. an inventory by appropriate classification was prepared of existing vocational training resources both in the government and private sector, in each country ;
2. available manpower data of each country was examined, to serve as a basis for estimating current and future manpower requirements ;
3. the nature and extent of opportunities for on-the-job and other informal training in each country was explored ;
4. priority vocational training needs were identified, which could be satisfied most economically and effectively through a regional approach ;

5. the interest was assessed of each government in utilizing existing or new facilities which offer opportunities for training;

6. rough estimates were developed of requirements for the development of selected facilities for regional utilization. This covered needs for buildings, equipment and instructional materials, and for staff, which were also phased and costed out;

7. the availability was determined of local staff either trained or available for training, students qualified for training, and job opportunities;

8. This final report constitutes a plan for a regional approach to vocational training for skilled and middle-level manpower in Central Africa under the sponsorship of UDEAC. This approach is not confined to those activities recommended for U.S. financing, but focuses on the priority needs of the area. It includes factors for developing private enterprise capability to conduct on-the-job as well as skill improvement training for employed workers.

February, 1970

Eugene B. Abrams
Director of Technical Assistance
ORT

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations set forth below in each of the four country chapters are recapitulated herewith, reviewed from a regional viewpoint (two or more countries). The national recommendations, which appear in the country chapters only, remain valid.

1. It would appear upon review of the inventory of the training facilities of each country that these facilities, schools or centers are numerous enough to satisfy the country's needs. However, when viewed in the light of the needs of industry and commerce, it becomes readily apparent that there is a considerable gap with respect to middle-level manpower, technicians and supervisory personnel, in industry and commerce. There is also a gap in the system of vocational training at the skilled worker level. The apprenticeship system at the Chambres des Metiers is illusory. The ILO should review this situation for the purpose of establishing a model apprenticeship contract between the employer and a young worker who desires to learn a trade. Complementary courses could be provided to young workers (languages, mathematics, industrial design and technology) sponsored by the national technical education department.

2. There is an insufficient variety of courses given in the technical education schools (Lycées Techniques and CET). Because the labor market is rather narrow, greater diversification is necessary in the range of courses offered. The creation of the following sections is recommended to meet this need:

   a) electronics (particularly in Cameroon and in Gabon), in the existing Lycées Techniques.

   b) automation (mechanical, hydraulic, pneumatic and electric) for Cameroon and Gabon.

   c) computer programmers and analysts, since electronic computers are already in use in Cameroon, Gabon and in CAR.

   These last two specialties should be in the form of regional schools.

3. A more precise evaluation of available resources and foreseeable needs is necessary for setting a logical policy of integrated training within Development Plans. A clearer definition of manpower training goals and the financial and logistic means for achieving these goals is mandatory.

   More accurate job availability estimates, numbers of persons employed, and evaluation of needs by sector are required. It would also be useful to define the psycho-sociological obstacles which confront middle-level manpower. Defining the optimum selection processes for selection and orientation of youth towards the jobs they are best fitted for is of capital importance. A wide range of means of training and upgrading is required, using methods and programs geared to specific circumstances.

   Part one, paragraph II of this survey outlines the difficulties of reconciling supply and demand in relation to training needs. Once defined, the training policy could become more effective.

To further this end, the creation of a National Office of Vocational Training (similar to the ONFP in the Ivory Coast) in each country is strongly recommended. There is such a body in Gabon, and a nucleus of one is developing in Chad. However, nothing of the sort exists in Cameroon or the Central African Republic. The creation of a Vocational Training body in each country should be accomplished in coordinated fashion — whereby the importance of this Office which would supervise on-the-job training effectively. It would also review the activities of the totality of Vocational Training Institutions outside of technical education, and would at the same time supervise the development or creation of such schools.

An Office Regional de la Formation Professionnelle (ORFP) would be created within the framework of U.D.E.A.C. which would harmonize the activities of the national offices, by providing them with the necessary technical assistance and by assuring an exchange of documentation and information. From this harmonization of national vocational training policies would flow the creation of such regional vocational training institutions as would be needed because of the non-economic basis for investment in purely national institutions.

4. In paragraphs II B and II C of Part One, the importance of the needs for foremen and technicians in the industrial field in particular was noted. Also noted in the inventory of training means was the capacity of personnel training at this level, in existing schools. This capacity could never meet the levels of skilled manpower required.

   The Libreville Institute of Technology (IUT) could train engineer-technicians and senior technicians of University level.

   The Lycées Techniques are abandoning increasingly the training for the Brevets de Techniciens in favor of the baccalauréat de technicien (notably in Cameroon).

   It is therefore necessary to create a *Regional School for Technical Training* in various specialties.

5. National projects for the creation of a Teacher Training Institute exist in each of the four countries and requests for financial aid to various international organizations have been submitted separately by the countries concerned. These requests should be grouped for the benefit of a Regional Teacher Training Institute for the four countries. This request is supported by the analysis provided in Annexes A and B.

   The percentage of students who complete training is small, but even more serious than the mediocre results in examinations is the number of drop-outs during the school year. In Annex C of Cameroon, is a review of the results of 1966/67, 1967/68 and a projection for 1968/69. The weak scholastic output is discouraging with the resultant wastage a heavy load on the respective national economies.

   If such a school were created immediately, with full support from all, it would not solve all of the problems in this field. Optimistically speaking, at least one year would be necessary for the creation and start-up of operations of such an institution. The needs are immediate. In the light of this urgency, attention should be focused on the need to send to specialized institutions, for a short period of time, a certain number of African instructors, already practicing the teaching profession, but who lack pedagogical qualifications for a period of technical and pedagogical training in their specialities. A number of such

institutions exist that have considerable experience in this field. and who have already carried out similar activities on behalf of other African countries. The Central ORT Institute located at Anières, in the outskirts of Geneva, which specializes in the training of technical instructors, is fully qualified to provide such training and has the flexibility necessary to design specific training courses.

6. The issue of training and upgrading of technical teachers has just been dealt with. There is, however, another problem related to the training of primary school teachers. This problem was reviewed in Cameroon with the UNESCO project for rural teacher training and in Central African Republic with the INPPPE. These projects contain a new idea, which is that of a teaching methodology better adapted to rural life, specifically agriculture and artisan training, through the introduction of manual training and agricultural education at the primary school level. This same problem is prevalent in Chad.

   It is recommended that, there be created an institution which would be responsible for the conception and manufacture of audio-visual aids, as well as other manual training materials for use in the primary schools.

   This center could be situated at either NGOUMOU or at BANGUI, following discussion and agreement between the countries concerned. It should be noted that ORT had already created in Mali, beginning of 1962, such a center, which is still in effective operation. This center is similar to the one presently operating at the Central ORT Institute in Anières.

7. In each of the country sections in the foregoing report, the sectors of tourism and hotel management are reviewed, in the light of the considerable investments for which the various national development plans have provided. Despite all of the planning for tourism and hotel investment and management, nowhere, in any of the countries, does a training institute exist in these sectors. The creation of a hotel training school within the framework of an existing hotel, specifically in Chad, is recommended, based on proposals made to the survey team by Chadian officials.

8. Creation of a regional watchmaking and instrument repair school. In the field of training of watch makers and instrument repair men, there is a total lack in each of the four countries. This school would not only train watch repair specialists, but would also train precision mechanics and maintenance and repair personnel for control instrumentation (aircraft instruments, electric meters, etc.). ORT has already contacted the Swiss Watchmaking Federation which has indicated its interest in this project.

9. Creation of a school of merchant marine skills. The importance of fisheries and merchant marine activities have been dealt with for Cameroon, Gabon, Chad and the Central African Republic. While it is obvious that for Cameroon and Gabon merchant marine activities play a relatively important role in their economy, the question of fluvial navigation is of equal importance for the Central African Republic and Chad.

   The objective of such a school would be to train specialists capable of maintaining marine diesel engines, small outboard and inboard motors, radios, electrical installations aboard sea-going and river craft, as well as refrigeration technicians for the fishing fleet and the merchant marine. This regional school could, of course, serve other countries such as Congo (Brazzaville) and Spanish Guinea.

Its creation should be undertaken in close conjunction with a shipping company.

10. One special recommendation arises in connection with Chad and the Central African Republic (in connection with the latter country, see the request formulated by the Bangui Chamber of Commerce (annex VI-CAR). It is recommended that a study team cover the interior of both countries with the objective of surveying the commercial exchange system, with a view to bear reform and development through an adequate training effort. While, in the commercial sector, a number of large companies completely cover the import and export requirements of the countries concerned, the commercial structure in the interior is in a relatively embryonic stage.

11. It is recommended that the telecommunication schools in Chad and the Central African Republic be further developed. They complement each other but do not yet play a regional role, in terms of satisfying the needs of the four countries.

12. A similar recommendation is made for the Public Works School in Chad, which should be renamed the Regional Public Works School, whose capacity is sufficient to allow the admission of a considerable number of students from other countries in the region.

INVENTORY OF INSTITUTIONS

	TYPE	CHAD		
		Institution	Enrolment	
A.	**Institutions and resources administered by Ministry of National Education**			
A.1	Institutions for long-term technical training courses (2nd cycle)	Industrial Lt at FtArchambault + CET annex	1,7	
		Community LT at Fort-Lamy	322	
A.2	Institutions for short-term technical training (1st cycle + CAP)			
A.3	Para-Industrial and craft training	11 apprenticeship centers	199	
A.4	Education of women and girls (home economics and dressmaking)			
A.4.1.	Leading to a CAP diploma	–		
A.4.2	Without CAP diploma	5 training centers	–	
A.5	Advanced training course (special advancement)	–		
B.	**Institutions administered by the Ministry of Labour**			
B.1	Centers for Accelerated Vocational Training	Accel. Voc. Tr. Center at Fort-Lamy	129	
C.	**Institutions administered by other ministries**			
C.1	Public Works Department	Ecole Nationale, Fort-Lamy	65	
C.2	Ministry of Postal Service and Telecommunications	Ecole Nationale, Fort-Archambault	28	
D.	**Training within enterprise**	**UTA, SEEE, banks...**	100	
E.	**Training provided through bilateral and multilateral aid**			
E.1	AFCA			
E.2	UNESCO – ILO	**Rural Training Center**	na	
E.3	Others			

na: not available

INVENTORY OF INSTITUTIONS

CAMEROON		GABON		CAR	
Institution	Enrolment	Institution	Enrolment	Institution	Enrolment
6 Ind. LT and courses 1st cycle 2nd cycle	955 881	LT Libreville Immaculée Conception Commercial School, Port-Gentil	547 66	LT in Bangui	22[illegible]
54 CET and similar institutions	7810	5 CET 1 commercial section, BITAM	455 19	CET annex to LT Bangui School of Arts & Crafts	244 53
26 craftsmanship sections	1302	10 apprenticeship centers	338	Apprenticeship centers Craftsmanship schools	1090 362
2 home eco. schools	40	–		Ecole Notre Dame Lycée Caron	193
9 home economics sections	385				
In industrial LT	–				
Accel. Voc. Tr. Center, Bassa Accel. Voc. Tr. Center, Yaoundé Accel. Voc. Tr. Center, Douala	30 30 30	Accel. Voc. Tr. Center, Libreville Accel. Voc. Tr. Center, Port-Gentil Accel. Voc. Tr. Center, Ste-Marie	105 45	Accel. Voc. Tr. Center, Bangui	65
Training Center for engine mechanics, Douala	15	–		Center at Board (closed)	0
		Postal Training Center	16	Ecole Nationale (planned for 1970)	50
Renault, Régifercam...	170	COMILOG, COMUF, Shell...	na	SCKN, Renault	na
Very active participation in other institutes	na	Minor participation	na		
Yes (already recapitulated)				Training of craftsmen INPPE (short courses)	planned courses 50
I.P.D.	na			ORT/AID Center	na

LIST OF ABBREVIATIONS

AFCA	Association pour la Formation des Cadres de l'Industrie et de l'Administration
AID	United States Agency for International Development L'Agence des Etats Unis pour le Développement International
BAC	Baccalauréat
BE	Brevet Elémentaire
BEPC	Brevet Elémentaire du Premier Cycle
BEC	Brevet d'Enseignement Commercial
BEI	Brevet d'Enseignement Industriel
BP	Brevet Professionnel
BSEC	Brevet Supérieur d'Enseignement Commercial
BSEN	Brevet Supérieur d'Ecole Normale
BT	Brevet de Technicien
CAP	Certificat d'Aptitude Professionnelle
CAPES	Certificat d'Aptitude Pédagogique pour l'Enseignement Supérieur
CAPET	Certificat d'Aptitude Pédagogique pour l'Enseignement Technique
CAPC	Certificat d'Aptitude Professionnelle Commercial
CEAP	Certificat Elémentaire d'Aptitude Professionnelle
CEG	Collège d'Enseignement Général
CEP	Certificat d'Etudes Primaires
CEPE	Certificat d'Etudes Primaires Elémentaires
CEPT	Certificat d'Etudes Primaires Tchadien
CET	Collège d'Enseignement Technique
CETC	Collège d'Enseignement Technique Commercial
CETI	Collège d'Enseignement Technique Industriel
CFA	Centre de Formation Accélérée
CFPP	Centre de Formation Professionnelle et de Perfectionnement
CFPR	Centre de Formation Professionnelle Rapide
EPS	Ecole Primaire Supérieure
FPA	Formation Professionnelle Accélérée
IFA	Institut Francais d'Afrique
ILO BIT	International Labour Office Bureau International du Travail
INPPPE	Institut National Permanent pour le Perfectionnement du Personnel Enseignant
IPD	Institut Panafricain de Développement
IUT	Institut Universitaire de Technologie
LT	Lycée technique
MEN	Ministère de l'Education Nationale
MESC	Ministère de l'Education de la Jeunesse et de la Culture

NSCKN	Nouvelle Société Commerciale du Kouilou-Niari
ONFP	Office National de la Formation Professionnelle
ORFP	Office Régional de la Formation Professionnelle
ORT	Organization for Rehabilitation through Training
PEG	Professeur d'Enseignement Général
PETT	Professeur d'Enseignement Technique Théorique
PNUD UNDP	Programme des Nations Unies pour le Développement United Nations Development Program
PTA	Professeur Technique Adjoint
PTET	Professeur Technique pour l'Enseignement Théorique
SAR	Sections Artisanales Rurales
SEEE	Société Equatoriale d'Energie Electrique
TME	Travaux Manuels Educatifs
TP	Travaux Pratiques
UDEAC	Union Douanière et Economique de l'Afrique Centrale (Economic and Customs Union of Central Africa)
UTA	Union des Transports Aériens
UIT	Union Internationale des Télécommunications

PART TWO: PROJECT PROPOSALS

NOTE ON PROJECT PROPOSALS

The amalgamation of project proposals 3 and 4 (Regional Technical Training School and Regional Technical Teacher Training Institute) and project proposals 4 and 5 (Regional Technical Teacher Training Institute and Regional Training Aids and Educational Research Center) was effected at the request of the Agency for International Development, in the interests of a more efficient use of resources.

In the project proposals it should be noted that:

1. The cost of transportation of equipment and materiel to the recipient country is included in the budget.
2. Equipment and materiel costs do not include customs duty on the assumption that they will enter the countries duty free.
3. In all of the project proposals, it is assumed that students' living expenses will be covered by the governments. Consequently, no boarding facilities have been provided for.
4. The ORT fee covering assignment of specialists includes:
   - salaries
   - expatriation allowances
   - family allowances
   - education allowances
   - pension contributions
   - accident and health insurance
   - ORT headquarters support including by Geneva and New York personnel
   - salaries, course materials, syllabi and documentation
   - all other expenses related to employee compensation.
5. No attempt has been made to allocate budgetary expenses as between donor and recipient governments. This allocation of expenses would be decided on a project-by-project basis.
6. The costs of the first two years of operation are generally higher than subsequent years. This is because most of the "one-time" expenses (buildings, equipment, etc.) are made at the beginning of the project.

   If any of these assumptions should prove incorrect in a particular case, corresponding upward budget adjustments will be required.

PROJECT No. 1

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL CENTER FOR THE TRAINING OF AUTOMATION TECHNICIANS

I. INTRODUCTION

During 1969, an ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member Governments of the UDEAC : Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which was formerly a member of the UDEAC.

In all of the Central African countries various kinds of complex automatic equipment are installed such as elevators, printing presses, and packaging machines. In none of these countries does there exist African staff capable of maintaining or repairing this equipment. This is true not only in countries having membership in UDEAC and Chad, but also all of French-speaking Africa. The repair of a film projector or a lathe-copying machine, for example, must be carried out in Europe, or requires the despatch of a European technician to Africa.

This project proposal stems directly from discussions in the field with African leaders concerned with this problem who indicated to the ORT team during their on-the-spot investigations the pressing need for trained Africans in this field. This particular activity was unanimously accepted at the Bangui conference on vocational training.

II. PROJECT OBJECTIVE

The objective of this project is to train, in three years, technicians capable of repairing, adjusting and maintaining all kinds of automatic machinery and equipment, including but not limited to the following types :

mechanical
pneumatic
electro-magnetic
hydraulic
electronic

The Center should admit 15 students per year which would result in approximately 12 graduates per year beginning in 1973, assuming that the Center

would be created by 1970 and that the percentage of dropouts would be approximately 20%, which is a reasonable assumption given the problems in this specialty.

III. METHOD OF OPERATION

Recruitment would be carried out in all of the countries of Central Africa, but arrangements could be made to admit students from other African countries.

Selection criteria for the admission of students would be particularly high and would especially take into account the natural aptitude of the candidate in logic, initiative and mathematics.

The recruitment level should be higher than the BEP or the CAP. The following candidates could be admitted as students after selection and examination:

— holders of the electro-mechanics CAP having one year of industrial experience.

— holders of the electro-mechanics BEP having one year of industrial experience.

— holders of the electro-mechanics BEI or equivalent.

In any event the candidates should have received comprehensive training in electro-mechanics.

Given the extremely long lead time in equipment deliveries and the administrative and logistic problems involved in the construction of buildings, the first year of the project should be devoted to:

— a study in depth of local conditions and the refinement of this project proposal

— the selection of students

— the drawing up of equipment lists and placing of orders

— supervision of construction

— equipping and furnishing of shops and classrooms, if construction is sufficiently advanced.

— preparation of course material on the basis of student aptitude and level

— creation and construction of training aids designed to meet regional needs.

This preparatory period would require the presence of two technicians, one being the Chief of Project. The total teaching staff would assume their functions 12 months later.

The training provided by the Center would utilise the most modern pedagogical techniques, given the complexity of this specialty, through the use of audio-visual and didactic training aids and materials such as:

film projectors
slide projectors
overhead projectors
epidiascopes
didactic models
explanatory charts

The foregoing elements are indispensable for the teaching of the theory courses (automation technology, draftsmanship, circuit design, building, numbers

theory, Boole algebra, electronics, logic circuits, electro-technology, hydro-pneumatic equipment).

In the shop, training aids and didactic material, particularly controlled simulators, would be used. For the use of automation demonstrations by analogy, a didactic demonstration stand would be utilized. A number of courses could be given in the form of programmed instruction.

The project would be Africanized approximately six years after its start-up, but the African counterparts, who would be designated to take over from the ORT teaching staff, would have to spend one to two years, at a minimum, abroad before being capable of taking over in the classroom.

IV. BUILDING REQUIREMENTS

A. Classroom needs:

3 classrooms
1 preparation room
1 lecture hall
1 library/study room
1 draughting room
1 instructors room
1 technical studies office

Workshops:

1 machine shop
1 automation laboratory (simulators, computers)
1 physics and electricity laboratory
1 stockroom for tools and raw materials

B. Administrative space needs:

1 office for project head
1 secretarial office

C. Miscellaneous:

sanitary facilities
cloakroom

Total floor space: 900 to 1000 m^2 (970 m^2 = 10,800 sq. ft.)

V. TEACHING PERSONNEL

A. ORT Personnel:

First year of operations (preparatory)

1 chief of party
1 automation instructor

Second year of operations

(In addition to first-year personnel):

1 electronics and mathematics instructor
1 storekeeper

Third year of operations

(In addition to second-year personnel):

1 automation instructor
1 electro-mechanics instructor

Fourth year of operations

(In addition to third-year personnel):

1 automation instructor
1 mechanics instructor

B. **LOCAL STAFF:**

1 secretary

Locally-recruited instructors for sports, French, etc. (approximately 6 man/months per year).*

1 caretaker*
2 laborers
1 night watchman
1 chauffeur
1 assistant storekeeper*

VI. BUDGET ESTIMATE FOR THE FIRST TWO YEARS OF OPERATION

			US$
A.	**Buildings and Grounds**		75,000
B.	**ORT Staff**		
	First year	$ 56,000	
	Second year	112,000	168,000
	Third year	144,000	
	Fourth year onwards	192,000	
C.	**Local Staff**		
	First year	$ 8,000	
	Second year onwards	$ 18,000	26,000
D.	**Equipment, Material, Tools**		
	Classroom and office furniture		20,000
	Training aids		12,000
	Mechanics workshop		25,000
	Automation laboratory		60,000
	Physics & electricity laboratory		12,000
	Expendable items ($12,000 per year)		24,000
	Textbooks, film, supplies, etc ($9,000 per year)		18,000
E.	**Expatriate staff housing (including electricity, water & gas)**		
	First year	$ 14,000	
	Second year	$ 28,000	42,000
	Third year	$ 42,000	
	From fourth year onwards	$ 56,000	
		carried forward	$482,000

* Starting with second year of operations

			US$
		brought forward :	482,000
F.	**School operating costs**		
	Water, electricity, gas, etc Postal, telephone, cables Gasoline Janitorial supplies and miscellaneous ($15,000 per year)		30,000
G.	**Two utility vehicles**		6,000
H.	**Travel of staff and families and transportation of personal effects**		
	First year	$ 8,000	
	Second year	$16,000	
	Third year	$22,000	24,000
	From fourth year onwards	$29,000	
I.	**Inspections, consultations, per diem, etc.** ($3,000 per year)		6,000
		TOTAL	$548,000

NOTE:

Beginning with the third year of operation, training overseas is projected for eight counterparts, who would assume teaching tasks following their return from training. Training costs are estimated at $60,000 per year for a group of eight trainees.

PROJECT No. 2

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL SCHOOL FOR THE TRAINING OF COMPUTER PROGRAMMERS AND ANALYSTS

I. INTRODUCTION

During 1969 an ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member governments of the UDEAC; Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which has formerly a member of the UDEAC.

During the discussions at the conference, there was unanimous approval of the ORT recommendation to create a regional facility for the training of computer programmers and analysts. In addition to on-the-spot observations in Central Africa made by the ORT team, conversations with representatives of leading computer manufacturers were held with a view to isolating more specifically the training problem.

The following project proposal is therefore based on field observations as well as the review of the problem with those representatives of computer manufacturers dealing with personnel and training problems. It is designed to meet an acute shortage of trained Africans in this field.

It is estimated that there is at present a backlog requirement for approximately 100 to 150 computer programmers in Central Africa. This function is presently being carried out in the 5 Central African states by expatriate Europeans. The major computer manufacturers have attempted in the past to train computer programmers on-the-spot, but have run into a variety of difficulties. The principal problem has been the recruitment of persons qualified to follow the course material, most of which is in the form of programmed instruction. This is a rather typical problem encountered in Africa, which ORT has successfully solved in the past, through the creation of special preparatory courses which bring the level of learning capacity up to that necessary required to absorb technical and abstract subjects.

While the computer manufacturers feel that it would now be premature to institute formal training programs for computer analysts, it is felt that further information on this aspect of the problem should be obtained in Central Africa, from computer users. There are two methods possible for training analysts, The first involves young administrators, already at work, who have the aptitudes required for this type of training. The second involves the selection of the best of the computer programmers for additional training in the technical and administrative sectors.

The need for 100-150 programmers in the Central African states is based on the present number of computers installed and operating in government and private

enterprise in these countries and the number of expatriate programmers presently employed. In addition, however, it is estimated conservatively that once the backlog needs have been met, an increase of approximately 10 to 20 programmers per year will be needed to keep up with the annual increase in computer installations.

II. PROJECT OBJECTIVES

The objectives of this project are to create a regional school, or sections in an existing institution, for the purpose of training computer programmers in the short run, and analysts and programmers in the long run. Courses would be given to approximately 40 students per year which, taking into account normal attrition and present and future needs, would result in filling the backlog by 1976. Beyond that year, current needs would begin to be met. Course materials would be based on programmed instructional materials currently utilized by the computer manufacturers for training in Europe and North America, appropriately modified by ORT for African conditions. Prior to actually beginning the programmer course material, students would be given one year of preparatory work, with heavy emphasis on the use of audio-visual methods, to bring them up to the level required for successful assimilation of the course material. It is estimated that following the one year of preparatory work, approximately one year would be needed for the actual programmer training.

III. METHOD OF OPERATION

Selection and recruitment of students would be at the BEPC or baccalaureat level, preferably the latter, if sufficient candidates were available, Emphasis in selection would be placed on demonstrated ability in the mathematics and logic field. Selection procedures would use commonly accepted psychological and intelligence tests, appropriately modified for the African context by ORT, in close cooperation with the computer manufacturers.

For the training of 40 to 50 persons annually, it is estimated that four or five classrooms of approximately 60 m^2 each would be needed to house the preparatory and training year students. In addition, practical work would be carried out using local computers. Computer time would be purchased from the computer owners if necessary.

Prior to the actual start-up of the project, a period of three months would be necessary for the ORT pedagogical services to develop a course of programmed instruction through modification of existing systems.

Three years after project start-up, training of counterparts to replace the expatriate instructors would begin. It would be accomplished through selection of those students having demonstrated the greatest aptitude and who, in ORT's judgment, have potential teaching talent.

Equipment needs for this project are minimal, consisting only of normal classroom furniture and materials, and a modest amount of audio-visual training aids. It is not considered economically viable to purchase or rent a computer for instruction purposes. However, the school must be located in close physical proximity to an operational computer installation.

IV. BUILDING REQUIREMENTS

4 classrooms
1 preparation room
1 instructors room
1 office for project head
1 secretarial office
1 storeroom
1 cloakroom
sanitary facilities

Total floor space: 450 - 500 m² (4900 - 5400 sq.ft.)

V. PERSONNEL

ORT STAFF:

First year of operations:

— Four instructors, including Chief of Party

Second and following years:

— Seven instructors, including Chief of Party

LOCAL STAFF:

1 secretary
1 janitor
1 night watchman
1 caretaker

Locally-recruited instructors for sports, French, etc., 16 hours per week.

VI. BUDGET ESTIMATE FOR THE FIRST TWO YEARS OF OPERATION

			U.S.$
A.	Buildings and grounds		38,000
B.	ORT Staff		
	Preparatory period (Geneva) 3 months	$ 16,000	
	First year	100,000	
	Second year	170,000	286,000
C.	Local Staff		
	$15,000 per year		30,000
D.	Equipment		
	Classroom and office furniture		14,000
	Training aids		18,000
	Teaching equipment		12,000
		Carried forward:	398,000

		U.S.$
	Carried forward	398,000
	Storeroom	4,000
	Air conditioners	2,000
	Textbooks, supplies	8,000
	Miscellaneous	4,000
E.	ORT Staff Housing (including electricity, water, gas)	
	First year $28,000 Second and following years $49,000	77,000
F.	School Operating Costs	
	Computer time, water, electricity, gas, gasoline, transportation, janitorial needs $16,000 per year	32,000
G.	Travel of instructors and families, and transportation of personal effects	42,000
H.	Inspections, consultations, per diem, etc.	6,000
	TOTAL: U.S.$	573,000

AMALGAMATION OF PROJECTS 3 & 4

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL TRAINING INSTITUTE FOR TECHNICIANS IN INDUSTRY AND EDUCATION

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II. Project objectives
III. Project Description

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2. Recruitment and level of graduation
3. Duration of studies
4. Number of students and types of training
5. Program and course bases
6. Supplementary training and information overseas

B. Training of technicians

1. Recruitment level.
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3. Number of students and types of training.
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PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL TRAINING INSTITUTE FOR TECHNICIANS IN INDUSTRY AND EDUCATION

FOREWORD

The purpose of this project proposal is the creation of a Regional Training Institute for Technicians in Industry and Education (IRFCIET).

The project consists of creating an institution designed to meet a dual need felt acutely in all the countries of Central Africa.

We therefore propose to make a combined approach toward two essential objectives which could be pursued separately. Each of these is sufficiently important to justify separate action in each field, namely the training of technicians for industry and the training of persons who will provide technical and vocational education. However, by marrying these two actions it will be possible obtain a number of advantages which should be considered.

One of the most important is that the Institute, by virtue of its very size, will permit more rational utilization of plant, in particular teaching premises and equipment. It will, in addition, facilitate the assignment of functions to teachers and administrative services. This will entail substantial financial savings.

This dual training of skilled personnel will make for better coordination of education under the same leadership. The future PTA's and PTET's will thus be able to obtain very valuable direct experience during the first and second years of their training as technicians.

During the actual studies the fact that the technicians, representing future industrial supervisors, and the PTA's and PTET's, as the future instructors for skilled manpower, will be working side by side will itself provide the basis for better understanding and later collaboration between the people trained according to these two methods.

Under a single leadership the institute will be able to guide its students more easily into the branches most suited to their natural abilities. Guidance need not be restricted to the period before entry and can play a most important part during the initial phase of tuition. This will help to some extent to reduce failures and dropouts.

Some of the students will be concerned more with the technical aspects, while others will be taken up more fully with teaching questions, which will give a particular stamp to the school situation, without any adverse effect.

Obviously, the establishment of a training unit of such a size will give rise to numerous problems, starting with the actual location. These are matters which will have to be decided in the final project in conjunction with the authorities of the countries concerned.

The project is presented by first reviewing the elements relating to training of future teachers and then considering questions relating to technicians.

I. INTRODUCTION

A. Training of PTAs and PTETs

Examination of recent statistics on technical and vocational training supplied by the Union Douanière et Economique de l'Afrique Centrale (UDEAC) makes strikingly clear the lack of a technical teaching corps, the gaps being particularly noticeable and critical in the case of teachers who are nationals of the countries involved. The number of scholastic failures in the technical field and the high wastage in this category of education are all too evident. Over the short and medium term, technical and vocational training is the key element in the economic and social development of a country or a region. In addition, the immediate foreseeable needs in terms of numbers of skilled workers throw into even sharper relief the problem of technical teaching staff.

The scale of this problem has been recognized by every one of the UDEAC countries. The conference at Bangui unanimously approved the recommandation to create a Regional Technical Teacher Training Institute (ERNET), and to give it the priority which it merits.

The relevant part of this recommendation stated :

"National projects for the creation of a Teacher Training Institute exist in each of the four countries, and requests for financial aid to various international organizations have been submitted separately by the countries concerned. These requests should be grouped for the benefit of a Regional Teacher Training Institute (PTA and PTET) for the four countries. This request is supported by the analysis provided in Annex A (Distribution of teaching staff) and Annex B (Results of the various examinations) for each of the countries.

"The percentage of students who complete training is small, but even more serious than the mediocre results in examinations is the number of dropouts during the school year. Annex C contains a review of the results for 1966/67 and 1967/68 and a projection for 1968/69, which shows an unsatifactory prospect, with low efficiency and resultant wastage, placing a heavy load on the respective national economies.

"If such a school were created immediately, with full support from all, it would not solve all of the problems in this field. Optimistically speaking, at least one year would be necessary for the creation and start-up of operations of such an institution. The needs are immediate."

B. Training of technicians

The recommendation for the creation of a "Regional Training School for Technicians" was reviewed and endorsed by the Bangui Conference.

The report states that:

"In each paragraph IIB and IIC in the survey of each country, the extent of requirements for foremen and technicians was observed, particularly in industry. It was also noted in the first part, "Inventory of Training Facilities", that the possibility of training personnel at this level in all the existing institutions could never attain the level indicated in the statement of needs.

"The University will train engineering graduates. The Institute of Technology in Libreville will train practical engineers or senior technicians. The technical lycées have progressively abandoned Brevet de Technicien training in favor of the Baccalauréat de Technicien training (particularly in Cameroon).

"It is therefore necessary to create a Regional Training School for Technicians in several specialities."

The foregoing defines the level at which training should be given and indicates that training as a technician is a vital complementary means towards the effective utilization of engineers trained in the universities or the Institute of Technology in Libreville.

In practice graduate engineers work at peak efficiency when backed by a team of technicians, who serve as the link between the conception of a project and its realization.

The estimates of current skilled-labor needs, and those for the present decade, indicate large requirements in the fields of industry and construction in each country of the region. Consequently, an immediate effort is needed on order to expand the training of technical foremen and technicians.

II. PROJECT OBJECTIVES

A. Training of teachers

The objectives of the Institute are essentially threefold:

- to train teaching staff in the field of technical education and vocational training, either as workshop instructors (PTA) or as teachers of technical theory (PTET);
- to provide periodic advanced training and refresher courses for existing teaching staff;
- to contribute to and collaborate with a Regional Training Aids Center, which would also be responsible for educational methodology research for technical and vocational training.

The foregoing objectives would be conducted along parallel lines in the following areas of specialization:

- **industrial:** dealing with the different branches of the family of trades included under mechanical engineering and electricity;

— **construction:** dealing essentially with woodworking and building construction;
— **commercial:** dealing with accounting, secretarial skills and commercial activities.

This proposal outlines a project designed to train technicians for the industrial and constructional sectors, at PTA and PTET levels.

Given the broad complex of training activities required in the various fields, the action of the technician sections will limit itself essentially to the training of middle-level technicians for industry. A section of this school will however be devoted to building construction, and in particular, the training of building construction foremen. At a later stage civil engineering technicians could be trained.

Stress will be put on the training of technicians in fields related to mechanics and electricity which are the main basic trades. The following sections would be created as a first step:

— general mechanics
— automobile and diesel mechanics
— electrical installation for building and industry
— electro-mechanics
— refrigeration
— building and public works

The total enrollment of the technician sections will be 524 students at the time of full operation. Since courses will last four years, each graduating class will comprise about 12 to 20 technicians graduating in each of the sections. A diesel section would be added later. Specialization in this branch will take place during the final year.

III. PROJECT DESCRIPTION

A. Training of teachers

1. Institute Graduates' Assignments

The precise duties of the teaching staff described as PTAs and PTETs are as follows:

The PTAs will have as their principal task the teaching of pratical work at the level of the CPA diploma in the vocational training schools and technical high schools. However, they must also be capable of teaching workshop technology and technical draftsmanship in their own subjects, even if only to first-year students.

The PTETs will be responsible for the teaching of the technical theory involved in each trade, in the vocational shools and technical high schools. Each one must, in addition, be capable of teaching laboratory work in his own subject. The practical knowledge of the PTETs should be sufficiently thorough and recent to enable them to provide training which is geared to current industrial practice.

2. Recruitment and Level of Graduation

The training will be given at two levels. The same is true of recruitment of the students who are to become PTAs or PTETs.

PTA Level (period of studies : 3 years)

The minimum level of recruitment would be the BEI diploma, or in exceptional cases, the CAP diploma, with some years of practical experience in the trade in each case. Provision could be made, however, for recruiting experienced teachers with a good general education but without a technical diploma ; in this case, a preparatory course would be necessary.

PTET Level (period of studies : 3 years)

Here the recuitment level would be that of the **baccalauréat technique,** possibly the BEI. In the latter case, consideration might be given to the possibility of providing a preparatory year or semester before entry to the the Institute. In all cases, several years of practical experience in industry would be desirable.

PTET Alternative (period of studies : 1 year)

Here the criteria for recruitment would be more severe. Qualified technicians with some years of industrial practice would be able to apply. It does not seem likely that a technical engineer already in employment and having family responsibilities would be able to quit work for three years in order to obtain a PTET diploma.

In any event, the method decided for training of teachers will be finally selected in the light of the study to be carried out prior to the launching to the Institute.

Diplomas

On completion of their studies, with successful termination of the technical and education methodology courses, and the presentation of a final thesis, the graduates would be given titles of PTA or PTET.

3. Duration of studies

This will be three years except for the PTET alternative under which training will last one year, including technical and teaching periods and the preparation and presentation of final diploma studies.

4. Number of Students and Types of Training

Given the most acute immediate requirements in the region, the first courses for PTAs and PTETs would be given in the specializations and with the enrollment shown in Table I.

The flexibility of orientation and conversion of the Institute would be such as to allow courses to be established later in other sectors of economic activity of the region.

Table 1 covering the full number of students at the Institute calls for a number of explanatory comments. Some of these relate more specifically to teacher training.

The principal points are :

(1) **dropouts :** this does not appear substantial at first glance, but our fore-

casts are justified by the fact that we are allowing for the opportunity afforded to students to repeat a year's study.

(2) **PTET - masonry**: recruitment of candidates for this section would be made among certain students in the final (third year) class of the building and public works section. In addition, masonry PTAs of a satisfactory theoretical standard may apply (which is why there are more PTA students in this branch than elsewhere), as well as foremen or supervisors from the private sector.

(3) **PTET - carpentry**: these will be trained by taking the best PTAs in the branch (PTA carpentry students: 22 instead of 15). Recruitment could also be made among competent persons in actual employment in such trades.

5. Program and Course Bases

As already mentioned, studies are to last three years.

The future teachers are assumed to know the basic fundamentals of their skill. The main role of the Institute is focused on education methodology. However, given the speed at which industrial techniques are developing, it will be necessary to devote part of the time to refresher courses and upgrading of technical knowledge already acquired.

Table 2 shows, as an example the range of subjects to be taught during the training, both for teachers and for technicians.

Explanatory comment concerning table 2: Distribution of courses and requirements of teachers

In accordance with the previous description, recruitment for PTET sections might be made among students who have completed technician sections or are at the level of the final class in those sections. This would provide an additional opening allowing for late provisions and career decisions to persons not entering industrial sectors for various reasons.

Former technicians wishing to change specialty and having some years' experience in industry could also enter such classes.

Other industrial personnel not having a diploma corresponding to a technician's qualifications could also apply for a PTET place, but in that case prior examination could be necessary. If the number of candidates justifies it it would be possible to provide for a semester or a full year to prepare for entering the PTET sections.

If PTET training were to be conducted over a three-year period for various reasons, the effect in terms of persons and premises would be as follow :

— the number of students would rise from 65 to about 225
— the number of classrooms would be increased by 10
— the number of teachers would go up by 15, from 92 to 107

6. Supplementary Training and Information Overseas

It would be highly desirable and even essential, to incorporate, as a part of study, a period of training abroad in Europe. Preparation of the final thesis could form a part of such overseas training.

This would to provide the future teachers with valuable insight into the latest developments in industry and educational techniques. In addition to facilitating the recruitment of qualified candidates, it would provide an important additive to the technical knowledge of future teachers.

B. Training of technicians

1. Recruitment level

For the technician sections recruitment will be at the BEPC level, after nine years of schooling. It would be useful, however, also to permit admission of qualified candidates having an industrial CAP diploma and particularly students from the second or first year of technical lycées. A preparatory year could be created for those candidates having the CAP, while those from the technical lycées could enter the second or third year. At any rate, an entry examination should be required, as well as a probationary period of about one semester during the first year.

2. Graduation level

At the end of their training and after having passed a final examination an examination board, the students would obtain the title of "Advanced Technician".

3. Number of students and types of training

As shown in table 1 the number of student technicians will be 524 once the Institute is fully operative, namely,

— 144 in the first year for 6 classes
— 132 in the second year for 6 classes
— 124 in the third year for 7 classes
— 124 in the fourth year for 7 classes

Two explanatory comments concerning training of technicians relate to table no. 1:

(4) the first and second years are combined (see explanation in the section concerning the program and course bases)

(5) training of diesel technicians; specialization will begin with the fourth and last year of study. The number of students for the third year in the automobile section is therefore higher (24 persons) than in the other branches (20 persons).

4. Program and course bases

The training given should be based on the most modern methods and techniques. Active teaching techniques and methodology should be applied in order to attain optimum results.

With the exception of the civil engineering and construction section, the other sections will follow identical courses during the first two years. Mathematics and science in the different specialities taught in the school will have certain common elements.

After two years of observation of student progress through techniques

built into the system of training, the students will be oriented to their respective specializations, based on their demonstrated aptitudes and preferences.

As indicated in Table No. 2 the following subjects will be taught in addition to general studies :

— technical theory of each trade as well as management
— scientific and mathematical theory
— shop and laboratory work

A fundamental objective will be to provide the students with a solid educational base and disciplined work habits not only for immediate employment following graduation, but also for continuous retraining at a later date. Training programs would coordinate theory and practice as fully as possible.

Practical training periods within industry would be organized during a portion of the school vacation. A longer training period would be organized prior to the final examination period.

IV PROPOSED TIMETABLE FOR ACTION AND LOCATION

A. Stages of action

First stage : Establishment of the final project

Three months' study conducted if possible by a team of three persons, consisting of the Director-General, as the head of project responsible for its conduct, the Director of Educational Study and the Dean of the technician section.

Second stage : Construction of the school

This stage is concerned more specially with the preparation and installation of the facilities with a view to ensuring the proper operation of the first school year. During this stage, in addition to the administrative heads of the project, at least eight specialists, one for each branch of training, will have to be present. Table two shows, as an example and subject to approval of the proposed range of branches of education, the numerical requirements of specialists for each year of operation of the institute.

Thrid and successive stages until full operation of the Institute

The essential principle should be respected of bringing in the specialists needed for the particular stage several months before the beginning of the school year.

B. Location

It is important that the institute be situated in an area offering the opportunity of contact with industry and teaching establishments.

C. Africanization of the Project - Training of Counterparts

The problem of replacing expatriate experts must be foreseen from the very beginning. At the same time as the basic structure of the training system is created, which would result in full operation in four years, the recruitment and training of counterparts would need to be fully covered. Two complementary systems are possible :

1. local recruitment and training supplemented by a medium-term training period abroad.
2. partial training locally, with advanced training during a longer period of time abroad.

The Africanization of the project, as far as specialized teaching personnel is concerned, could start the year following the first graduation class.

V. STAFF

A. General

This chapter refers to the following tables :

— Table 2 : teaching facilities and numbers of teachers required
— Table 3 : organization chart of the institute.

Table 1 indicates that the number of technicians will amount to 524 and the number of teacher trainees to 491 (426 PTAs and 65 PTETs).

The number of classes will be 25 for technicians and 29 for teachers.

However, if PTET training were to last three years instead of one the figures would be 1172 for students and 64 for classes.

Requirements of teaching staff for the institute are summarized in Table 2 both under activities (full operation) and under year of operation. In the second case an explanatory comment is required concerning the method of determining the number of teachers.

It is impossible in practice to apply an arithmetic formula for calculation of the number of teachers by merely taking the number of classes and the number of hours of tuition given by each of them in the various branches. The needs imposed by timetables and by the particular specialization of teachers mean that some five to ten percent of teaching time must be over and above the strict theoretical requirements.

Moreover, a teacher having a shorter teaching period than the standard (24 hours per week) during the school year will be able to use the extra hours to carry out various technical or teaching jobs assigned to him.

This means that the theoretical total of 90 teachers will go up to 92 in our forecasts.

In addition, if PTET training is to be conducted over a three year period the number of teachers will have to be increased by 15, thus going up to 107 when the Institute is fully operative.

Teachers of Applied Psychology and Education

Under this title two specialized categories are covered. The first consists of teachers of pure education and psychology, while the second consists of persons qualified in the technical subjects taught at the Institute but also having a sound knowledge of educational psychology. It is the second category that will provide practical services in education.

Teachers of Methodology

These are persons qualified in the various branches of training at the Institute and also having experience and competence in educational psychology enabling them to instruct future teachers in the techniques of transmission of knowledge.

B. Organization chart - Table 3

Table 3 outlines the structure of the Institute and the major channels of communication between the various services. This chart may be substantially changed once the final on-the-spot study has been completed.

Two elements in the organization chart call for explanation.

— **Role of the Administrative Board.** Its composition and activities should be decided by the authorities of the UDEAC countries. The scope of this project exceeds the limits of any single country. Supervision of activities and the major choices of action must depend on the consent of all the beneficiaries.

— **Role of the Advisory Committee.** Its primary function would be to advise the director on teaching programs and general policies to be followed.

The functions and inter-relation of the other elements in the organization chart appear clear from their place in the general outline pattern.

C. List of executive, administrative and supplementary staff, apart from teachers

1. **Executive**

1 Director general
1 Director of education
2 Deans
6 Chiefs of section
1 Vocational guidance officer (psycho-technician)
1 Social welfare officer
1 Administrative assistant
1 Procurement officer also responsible for stock control
1 Chief of planning

2. **Administrative and supplementary**

- Secretariat
- Accounting office
4 Planning office employees
1 Document reproduction employee
1 Nurse
4 Assistants

3. **Auxiliary**

- Drivers
- Cleaners
- Watchmen

D. Teacher requirements per year of operation

The requirements for teaching staff are stated in table 2. The numbers have been decided in accordance with the following two factors:

— number of hours per teacher (24 per week) and

— number of classes for each school year.

The resulting number of teachers per year of operation of the Institute amounts to:

First year of operation: 760 hours per week

— 3 teachers of general education
— 5 teachers of technical theory and management
— 6 teachers of scientific theory and mathematics
— 4 teachers of practical and laboratory work
— 5 teachers of applied psychology and education
— 9 teachers of educational methodology

Two important comments must be made at this stage: if arithmetical calculations are employed the need for teachers is a fraction in certain subjects and for certain periods. The solution is to use a teacher who will be only partly employed or to give a teacher a number of additional hours which will be covered by engaging new teachers during the following year.

— For certain pratical branches during the first year of operation of the Institute we shall only need 4 teachers, this being the number fixed by arithmetical calculation. But there are more than 4 different specialties in the school, and it would be up to the chiefs of the various sections to provide the tuition facilities.

Second year of operation: 560 hours per week

— 3 teachers of general education
— 4 teachers of technical theory and management
— 5 teachers of scientific theory and mathematics
— 4 teachers of practical and laboratory work
— 4 teachers of applied psychology and education
— 6 teachers of educational methodology.

Third year of operation : 560 hours per week

— 2 teachers of general education.
— 5 teachers of technical theory and management.
— 2 teachers of scientific theory and mathematics.
— 4 teachers of practical and laboratory work.
— 4 teachers of applied psychology and education.
— 5 teachers of educational methodology.

Fourth year of operation : 280 hours per week

— 6 teachers of technical theory and management.
— 2 teachers of scientific theory and mathematics.
— 4 teachers of practical and laboratory work.

This makes a total of **92** teachers, to which should be added **15** additional teachers if the PTETs are to be receive 3 years' tuition instead of one.

VI. PREMISES

The premises required have been determined approximately to allow for the number of classes (see table 4) and the type of subject taught.

The latter is covered by table 5, showing the number and type of premises to be provided and equipped for each year of operation.

A. Teaching premises

First year of operation - 26 rooms - 19 classes

— 10 classrooms.
— 11 workshops.
— 5 laboratories.

Second year of operation - 21 rooms - 14 classes.

— 6 classrooms
— 11 workshops
— 4 laboratories.

Third year of operation - 9 rooms - 14 classes.

— 7 classrooms
— 2 workshops.

Fourth year of operation - 6 rooms - 7 classes.

— 6 classrooms

Comment :

If PTET training is to last three years the number of rooms will increase by 10 in order to permit 400 additional hours of teaching.

The extra premises then necessary will be as follows:

— 1 science laboratory
— 1 mechanics laboratory
— 1 electricity laboratory
— 1 draftsmanship classroom
— 6 classrooms.

B. List of additional administrative and other premises

— 1 Director General's office
— 1 Office of Director of Education and Coordinator of Studies
— 2 Deans' offices
— 1 Secretariat office
— 1 Accountancy office
— 1 Purchasing office
— 1 Planning office
— 1 Vocational guidance office
— 1 Vocational testing room
— 1 Social welfare officer's office
— 6 Offices for chiefs of section
— 2 lecture rooms
— 2 teachers' rooms
— 1 teachers' library
— 1 students' library
— 1 model classroom for audio-visual teaching with adjacent room for preparation
— 1 language laboratory
— 1 photographic laboratory
— 1 storeroom for teaching aids
— 1 room for document reproduction (previously mentioned as study premises)
— 1 hall with 100 seats communicating with
— 1 hall with 200 seats
— 1 dispensary
— 4 study rooms for students and for personal activities (students' committee, publication of a journal, etc.)
— 1 central store
— 6 section stores
— communal premises (gymnasium, showers, WC, etc.)

approximately 3,000 m^2

VII. EQUIPMENT

A. Equipment for teaching

This section deals with the equipment of premises designed exclusively for teaching.

Comment

It is intended that each section (trade) taught in the school will have at least one classroom specially equipped for technological teaching. This classroom should be connected with a storage space containing the relevant teaching aids, and will be so designed as to permit a wide range of technical and teaching experiments.

The same applies to certain classrooms for teaching, draftsmanship, science, etc.

The equipment requirements are listed by year of operation.

Table 5 recapitulates all of the premises to be equipped, broken down by:

- Simple classrooms,
- Classrooms for teaching draftsmanship,
- Classrooms for technological teaching,
- Laboratories,
- Workshops.

Equipment of premises for the first year of operation.

10 classrooms, including:

- 3 for draftsmanship,
- 1 for mechanical technology,
- 1 for electrical technology,
- 1 for woodworking technology,
- 1 for building technology,
- 3 simple classrooms.

11 workshops, including:

- 2 for general mechanics
- 1 for machine tools
- 1 for automobile mechanics
- 1 for diesel
- 1 for electro-mechanics
- 1 for electrical installation
- 1 for refrigeration
- 1 for carpentry
- 1 for masonry and building
- 1 for reproduction of documents

5 laboratories, including:

- 1 for mechanics and resistance
- 1 for refrigeration
- 1 for electricity
- 1 for science (physics, chemistry),
- 1 for flooring and construction mechanics

In addition, equipment will have to be provided for the following premises:

- Guidance and selection tests

— Model classroom for audio-visual education
— Language laboratory.

Equipment of premises for the second year of operation

6 classrooms, including:

— 2 for draftsmanship
— 1 for refrigeration technology
— 1 for automobile technology
— 2 simple classrooms

11 workshops, including:

— 1 applied mechanics
— 1 applied automobile mechanics
— 1 applied diesel technology
— 1 applied electricity
— 1 applied electro-mechanics
— 1 applied refrigeration
— 1 applied carpentry
— 1 applied masonry
— 1 mechanical and electro-mechanical assembly work
— 1 metal-working
— 1 welding.

4 laboratories, including:

— 1 thermodynamics
— 1 electricity
— 1 science (physics, chemistry)
— 1 metallurgy and heat treatment

Equipment of premises for the third year of operation

7 classrooms, including:

— 1 draftsmanship
— 1 diesel technology
— 1 electro-mechanical technology
— 4 simple classrooms

2 workshops

preparing prototypes and producing teaching aids

Equipment of premises for the fourth year of operation

6 simple classrooms

Comment:

If PTET training takes 3 years, equipment of the following 10 units must be provided:

— 1 science laboratory
— 1 mechanics laboratory
— 1 electricity laboratory
— 1 draftsmanship classroom
— 6 simple classrooms

B. Additional equipment

Budgeting allows for the miscellaneous premises forecast under item VI B.

VIII BUDGET

A. Preliminary study mission

3 specialists for three months

B. Preparatory period

1. ORT personnel
2. Local personnel
3. Buildings
4. Equipment
   Allow for the forecasts under VII A and B for the first year of operation
5. Operating costs
6. Housing for ORT personnel
7. Travel

C. First year of operation

Same items as for B.

D.

E. 2nd, 3rd and 4th years of operation

F.

Same items as for B.

Estimated Budget for the Preliminary Mission and First Two Years of Operation

		US $
I.	**First year and Preparatory Mission**	
	3 specialists for 3 months ; travel to Europe, Africa, USA, 1 specialist, Geneva office, consultants' fees Preparation of the detailed study Total - preparatory mission :	41,000
	A. ORT Personnel :	
	Direction - (see page 44) 15 experts	380,000
	B. Local Personnel :	
	1 qualified secretary 1 assistant store keeper 2 drivers 4 laborer-cleaners 2 watchmen 4 auxiliary staff	16,000
*	**C. Buildings and grounds**	850,000
	D. Equipment ;	
*	1. Equipment of offices and communal premises (see page 47)	80,000
*	2. 35 classrooms	175,000
*	3. Workshops (see pages 48, 49, 50) total - 22 workschops	367,000
*	4. Laboratories : (see pages 48, 49, 50) total 12 laboratories	130,000
*	5. Special equipment - Closed circuit television, language laboratory, lecture rooms, hall, etc.	52,000
	6. Library	8,000
	7. Stores (stocks of raw materials, and small tools)	90,000
	8. Teaching aids	130,000
	Carry forward :	2,319,000

* one-time expenses.

		US $
	Brought forward	2,319,000
E. Operating expenses:		
Gasoline, oil, consumer items, stationery, water, electricity, gas, post, miscellaneous		18,000
F. Accomodation for ORT personnel		120,000
G. Travel for experts and families, transport of personal effects and automobiles, travel by project authorities, consultations		55,000
H. Inspection, study travel, per diem		2,000
	Total First Year:	2,514,000

II. **Second year**

A. ORT Personnel:	
Top level personnel: 15 experts Teaching staff (see page 45) 32 specialists	1,195,000
B. Local personnel:	
Same as for the first year, plus: personnel needed for teaching related theoretical subjects (French, legislation, sports, etc.) 1 nurse 1 accountant 1 shorthand typist 2 auxiliaries 1 driver 3 laborer-cleaners 1 watchman.	50,000
C. Additional Equipment	150,000
D. Stores (stocks of raw materials and small tools)	88,000
E. Operating costs	40,000
F. Accomodation for ORT personnel	376,000
Carry forward	1,899,000

		US $
	C.F.	1,899,000
G. Travel for experts and families Transport of effects and automobiles,		152,000
H. Inspection, study travel, per diem, etc.		6,000
	Total 2nd year :	2,057,000
Total First Year		2,514,000
	GRAND TOTAL	4,571,000

Table 1

IRFCIET – NUMBER OF STUDENTS

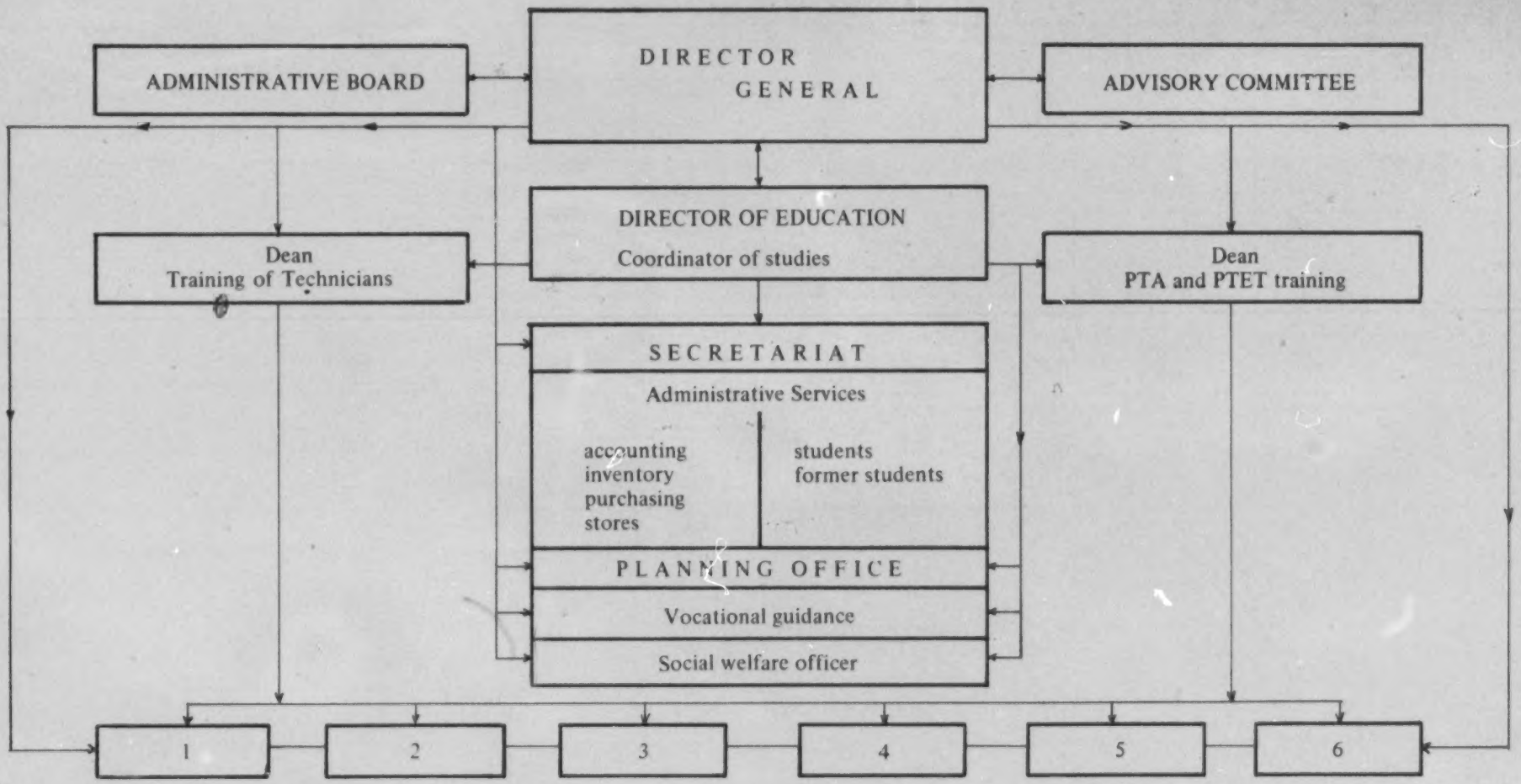
Type of training		Technicians				PTET	PTA			PTET - alternative		
SPECIALTIES		No of students per year of study				Special year of teacher training	No of students per year of study			No of students per year of study		
		1st and 2nd years combined		3rd	4th		1st	2nd	3rd	1st	2nd	3rd
1	General mechanics Construction	24	22	20	20	15	18	15	15	18	15	15
2	Automobile mechanics	24	22	24	12	15	18	15	15	18	15	15
3	Diesel	–	–	–	12		18	15	15			
4	Electro-mechanics	24	22	20	20	15	18	15	15	18	15	15
5	Electrical installation	24	22	20	20		18	15	15			
6	Refrigeration	24	22	20	20		18	15	15			
7	Building and public works Masonry	24	22	20	20	10	25	22	22	15	12	12
8	Carpentry	–	–	–	–	10	25	22	22	15	12	12
TOTALS	Students 1015 (1172)	144	132	124	124	65	158	134	134	84	69	69
		524					426			222		
	Classes 54 (64)	6	6	6	7	5	8	8	8	5	5	5
		25					24			15		

Table 2 **I R F C I E T : BREAKDOWN OF TEACHING – REQUIREMENTS FOR TEACHERS**

1 teacher = 24 hr/wk. 1 class = 40 hr/wk.

Type of training	Technicians				PTET	P T A			Number of hours of teaching				Total teacher requirements per speciality	Teacher requirements per year			
Year of study	Year of training				Training in one year	Year of training											
Subjects taught	1st-2nd years		3rd	4th		1st	2nd	3rd	Technicians	P.T.A.	PTET	TOTAL		1st	2nd	3rd	4th
Number of classes	6	6	6	7	5	8	8	8	25	24	5	54					
General culture	10%	10%	10%	–	10%	10%	10%	10%	72	20	96	188	$7\frac{20}{24}$	$3\frac{4}{24}$	$2\frac{8}{24}$	$2\frac{8}{24}$	–
Number of hours per year	24	24	24		20	32	32	32						76	56	56	—
Technical theory, management (organization of PTA, PTET school)	15%	15%	30%	50%	10%	20%	15%	20%	284	20	176	480	20	5	$3\frac{12}{24}$	$5\frac{16}{24}$	$5\frac{20}{24}$
Number of hours per year	36	36	72	140	20	64	48	64						120	84	136	140
Scientific theory, mathematics (trade calculation)	40%	35%	20%	10%	10%	10%	10%	–	256	20	64	340	$14\frac{4}{24}$	$6\frac{4}{24}$	$4\frac{20}{24}$	2	$1\frac{4}{24}$
Number of hours per year	96	84	48	28	20	32	32							448	116	48	28
Practical and laboratory work	35%	40%	40%	40%	–	–	–	–	388	–	–	388	$16\frac{4}{24}$	$3\frac{12}{24}$	4	4	$4\frac{16}{24}$
Number of hours per year	84	96	96	112										84	96	96	112
Applied psychology and education	–	–	–	–	30%	20%	25%	30%	–	60	240	300	$12\frac{12}{24}$	$5\frac{4}{24}$	$3\frac{8}{24}$	4	–
Number of hours per year					60	64	80	96						124	80	96	–
Methodology theoretical and practical education	–	–	–	–	40%	40%	40%	40%	–	80	384	464	$19\frac{8}{24}$	$8\frac{16}{24}$	$5\frac{8}{24}$	$5\frac{8}{24}$	–
Number of hours per year					80	128	128	128						208	128	128	
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	1000	200	960	2160	90 (92)	$31\frac{16}{24}$ (32)	$23\frac{8}{24}$ (24)	$23\frac{8}{24}$ (24)	$11\frac{16}{24}$ (12)
Number of hours per year	240	240	240	280	200	320	320	320						760	560	560	280

Table 3 **I R F C I E T ORGANIZATION CHART**



1 to 6 Chiefs of section partly responsible for teaching

1.- general mechanics
2.- automobile and diesel mechanics
3.- electro-mechanics and electrical installation
4.- refrigeration
5.- building and public works, masonry
6.- carpentry

Planning office

Team of :

2 construction engineers
1 electro-technician
1 building draftsman

following of

- progress
- miscellaneous production drawings
- technical job sheets
- manuals etc.

Table 4 **NUMBER OF CLASSES PER YEAR OF OPERATION**

Year of Operation	Type of training			TOTAL
	Technicians	P.T.A.	P.T.E.T.*	
1st year	6	8	5	19
2nd year	6	8	– (5)	14 (19)
3rd year	6	8	– (5)	14 (19)
4th year	7	–	–	7
TOTAL	25	24	5 (15)	54 (64)

* *If PTET training is to last three years, the number of classes will increase by 10, thus rising from 54 to 64 once the Institute is fully operative.*

Table 5 **AREA REQUIRED FOR TEACHING PREMISES**

Year of operation	Type of premises			TOTAL
	Classrooms	Workshops	Laboratories	
1st year	10 x 60 m2 = 600 m2	11 x 150 m2 = 1650 m2	5 x 120 m2 = 600 m2	2850 m2
2nd year	6 x 60 m2 = 360 m2	11 x 150 m2 = 1650 m2	4 x 120 m2 = 480 m2	2490 m2
3rd year	7 x 60 m2 = 420 m2	2 x 150 m2 = 300 m2		720 m2
4th year	6 x 60 m2 = 360 m2			360 m2
TOTAL	1740 m2	3600 m2	1080 m2	6420 m2
Additional premises if PTET training lasts 3 years	7 x 60 m2 = 420 m2		3 x 120 m2 = 360 m2	780 m2

1 classroom = 60 m2
1 workshop = 150 m2
1 laboratory = 120 m2

If PTET training lasts 3 years, total area would be. 7200 m2
Administrative and miscellaneous premises, approximately. 3000 m2
I.e. total area to be built . . . . . 9420 to 10200 m2

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL TECHNICAL TEACHER TRAINING INSTITUTE (ERNET) AND AN APPLIED EDUCATION CENTER (CPA)

I. INTRODUCTION

Examination of recent statistics on technical and vocational training supplied by the Union Douanière et Economique de l'Afrique Centrale (UDEAC) makes strikingly clear the lack of a technical teaching corps, the gaps being particularly noticeable and critical in the case of nationals of the countries involved. The number of scholastic failures in the technical field and the high wastage in this category of education are all too evident. Over the short and medium term, technical education and vocational training is the key element in the economic and social development of a country or a region. In addition, the immediate foreseeable needs in terms of numbers of skilled workers throw into even sharper relief the problem of technical teaching staff.

The scale of this problem has been recognized by every one of the UDEAC countries. The conference at Bangui unanimously approved the recommendation to create a Regional Technical Teacher Training Institute (ERNET), and to give it the priority which it merits.

The relevant part of this recommendation stated :
"National projects for the creation of a Teacher Training Institute exist in each of the four countries, and requests for financial aid to various international organizations have been submitted separately by the countries concerned. These requests should be grouped for the benefit of a Regional Teacher Training Institute (PTA and PTET) for the four countries. This request is supported by the analysis provided in Annex A (Distribution of teaching staff) and Annex B (Results of the various examinations) for each of the countries.

"The percentage of students who complete training is small, but even more serious than the mediocre results in examinations is the number of dropouts during the school year. Annex C contains a review of the results for 1966/67 and 1967/68 and a projection for 1968/69, which shows an unsatisfactory prospect, with low efficiency and resultant wastage, placing a heavy load on the respective national economies.

"If such a school were created immediately, with full support from all, it would not solve all of the problems in this field. Speaking optimistically, at least one year would be necessary for the creation and start-up of such an institution. The needs are immediate."

Examination of existing facilities with regard to technical and vocational training in the UDEAC countries reveals the almost complete absence of any system or body with the exclusive function of studying teaching methods in their application to the different types of teaching as well as the creation and administration of a center for documentation and the distribution of teaching aids.

This deficiency was noted in the preliminary report and stressed during the conference in Bangui. Recommendation No. 6 stated :

"It is recommended that there be created at regional level an institution which would be responsible for questions of teaching and the conception and production of audio-visual aids as well as other manual training materials."

Before going on to consider the principal ideas which should serve as a guide in planning such an institution, we should like to dwell briefly on the present performance record of the various types of teaching, as revealed in recent statistics for the region. This record fails by a long way to justify the financial investment made by the countries concerned.

One of the possible reasons is that education expenditures are often considered as items which have to be written off and from which no profit can be sought. If the same criteria were to be used in an industrial enterprise the result would soon be bankruptcy. Dramatic results are not so apparent in education.

The criteria which determine the prosperity of an industrial enterprise rest basically on the adaptation of production facilities to market requirements and constant research in order to keep up with current and future demand.

Education in the region should operate on similar principles, by having available the means of action and research which would permit it to overcome the present situation of providing third-rate, high-cost education.

The role of the Center proposed herein should not be limited exclusively to technical education. It should also concern itself with traditional primary and secondary education. Secondary education and training is vitally dependent on the quality of primary schooling.

Research and the use of audio-visual and other training aids should be applied to primary education as well as for various types of secondary education. Domestic science and agricultural education, as well as educational manual work (TME) would also be areas of concern of the Center.

We propose that the Teacher Training Institute (ERNET) and the Applied Education Center (CPA) be integrated within a single regional program, for the following reasons :

1. It is consistent and rational that two bodies concerned primarily with teaching methods should form a joint unit ;
2. Efficiency and output will be improved because :
   - students of the ERNET will spend periods of practical training at the CPA, where they will become accustomed to creating their own teaching aids for future use ;
   - conversely, the African counterparts at the CPA due to replace the ORT experts will be able to spend periods as technical teachers and their work of research and adaptation will be closer to technical reality and actual needs. In addition, it will be possible to test the teaching methods and aids devised on the actual students at the ERNET.
3. The teaching materials devised at the CPA can be produced in the necessary quantities at the ERNET.
4. The saving from the combination of the CPA with the ERNET will also be valuable for operational efficiency. This relates specially to class-rooms and workshops, because there is no point in providing "model" premises if these already exist at the ERNET. It applies also to the staff attached to the project.

II. PROJECT OBJECTIVES

The whole of the project has a wide range of aims. We shall consider these under two headings, relating respectively to the role of the ERNET and of the CPA.

A. Functions of the ERNET

- to train teaching staff in the field of technical education and vocational training, either as workshop instructors (PTA) or as teachers of technical theory (PTET) :
- to provide periodic advanced training and refresher courses for existing teaching staff ;

B. Functions of the CPA

- To carry out applied educational research for technical as well as other types of education.
- To review modern educational techniques, particularly the promotion of methods involving student participation and programmed instruction, suitably modified for local conditions.
- To continuously examine, adapt and update education programs
- To create and supervise pilot schools, sections or classes for the purpose of applying new methods on an experimental basis.
- To create and produce manuals and education curricula and course materials.
- To create and produce, after trial and approval, specific training aids for different types of education.
- To maintain close contact with the ERNET and other schools so as to ensure effective coordination.
- To maintain close contact through conferences with the different types of educational inspectorate in order to supervise the application of new methods and means already operational.
- To organize conferences and seminars for teachers and school directors for information and readaptation purposes
- To maintain a permanent exhibition of audio-visual aids and training materials.
- To create a comprehensive bibliography and obtain the most recent pertinent documentation dealing with requests for such action as :
  the creation and building of schools
  the equipment and installation of laboratories, specialized classrooms and workshops, etc.
  suitable production items to be included in technical and vocational education, etc.
- To circulate a periodical of education and technical information.
- To obtain regular information on international exhibitions and conferences concerning education and related techniques, with a view to possible participation.
- To prepare and produce slides and films corresponding to school programs and adapted to the needs of the African countries.

III.PROJECT DESCRIPTION

A. Description of the ERNET

1. Institute Graduates' Assignments

The duties of the teaching staff described as PTAs and PTETs will be :

The PTAs will have as their principal task the teaching of practical work at the level of the CPA diploma in the vocational training schools and technical high schools. However, they must also be capable of teaching workshop technology and technical draftsmanship in their own subjects, even if only to first-year students.

The PTETs will be responsible for the teaching of the technical theory involved in each trade, in the vocational schools and technical high schools. Each one must, in addition, be capable of teaching laboratory work in his own subject. The practical knowledge of the PTETs should be sufficiently thorough and recent to enable them to provide training which is geared to current industrial practice.

2. Recruitment and Level of Graduation

The training will be given at two levels. The same is true of recruitment of the students who are to become PTAs or PTETs.

PTA Level

The minimum level of recruitment would be the BEI diploma, or in exceptional cases, the CAP diploma, with some years of practical experience in the trade in each case. Provision could be made, however, for recruiting experienced teachers with a good general education but without a technical diploma ; in this case, a preparatory course would be necessary.

PTET Levels

Here the recruitment level would be that of technical baccalaureate or possibly of the BEI. In the last case, consideration might be given to the possibility of providing a preparatory year or semester before entry to the Institute. In all cases, several years of practical experience in industry would be desirable.

Diplomas

On completion of their studies, with successful termination of the technical and education methodology courses, and the presentation of a final thesis, the graduates would be given the title of PTA or PTET.

Length of Courses

The courses will be of three years' duration, including the technical and educational methodology course work and the preparation of the final thesis.

3. Number of Students and Types of Training

Given the most acute immediate requirements in the region, the first courses for PTAs and PTETs would be given in the specializations and with the enrollment shown in Tables 1 and 1a.

The flexibility of orientation and conversion of the ERNET would be such as to allow courses to be established later in other sectors of economic activity of the region.

Table 1 - PTA Enrollment

BRANCH	YEAR		
	1st	2nd	3rd
General Mechanics	18	15	15
Automobile Mechanics	18	15	15
Diesel	18	15	15
Electrical Installation	18	15	15
Electro-mechanics	18	15	15
Refrigeration	18	15	15
Carpentry	18	15	15
Masonry	18	15	15
(24 classes) TOTAL = 384	144	120	120

Table 1a - PTET Enrollment

BRANCH	YEAR		
	1st	2nd	3rd
General Mechanics and Construction Draftsmanship	18	15	15
Auto and Diesel Mechanics	18	15	15
Electricity (diagram drawing, laboratory)	18	15	15
Carpentry	18	15	15
Masonry	18	15	15
TOTAL = 240 (15 classes)	90	75	75

4. Program and Course Bases

As already mentioned, studies are to last three years.

The future teachers are assumed to know the basic fundamentals of their skill.

The main role of the ERNET is focused on education methodology. However, given the speed at which industrial techniques are developing, it will be necessary to devote part of the time to refresher courses and upgrading of technical knowledge already acquired.

Tables 2 and 2a show as an example the range of subjects to be taught during training.

Table 2 - Breakdown of Training by Subject and Year for PTAs

SUBJECT	YEAR		
	1st	2nd	3rd
General Education	10%	10%	10%
Trade Mathematics	10%	10%	–
Technical Theory and Workshop Organization	20%	15%	20%
Applied Methodology and Psychology	20%	25%	30%
Methodology of Shop Work	40%	40%	40%
TOTAL	100%	100%	100%

Table 2a - Breakdown of PTET Training

SUBJECT	YEAR		
	1st	2nd	3rd
General Education	10%	10%	10%
Scientific Theory and Mathematics	20%	15%	15%
Technical Theory	20%	20%	10%
Applied Methology and Psychology	20%	25%	35%
Educational Methology	30%	30%	30%
TOTAL	100%	100%	100%

Supplementary Training and Information Overseas

It would be highly desirable, and even essential, to incorporate, as part of the final year of study, a period of training abroad in Europe. Preparation of the final thesis could form part of such overseas training.

This would provide the future teachers with valuable insight into the latest developments in industry and educational techniques. In addition to facilitating the recruitment of qualified candidates, it would provide an important additive to the technical knowledge of each student.

B. Descriptions of the CPA

The Center's functions have already been defined. In order to perform these the Center must have the necessary resources of

- staff
- premises
- equipment.

1. Staff

In addition to the management personnel coming under the project head and responsible for the running of the ERNET and the CPA (namely the chief of the center and the chief of the planning office), the Center will comprise the following sections, with the corresponding specialized personnel :

- a planning office (3 draftsmen)
- an education office with seven specialists in different branches, namely :
  a psycho-technician, for evaluation
  a specialist in programmed education
  a specialist in primary education

a specialist in traditional secondary education
a specialist in educational manual work (TME)
a specialist in agricultural education
a specialist in domestic science education

- an office for the preparation and production of slides and films for teaching purposes (2 specialists)
- an office for project execution (launching, planning, coordination) (2 technicians)
- a library with a qualified librarian.

Comment : The Center must have specialists in the main branches of technical teaching, and in particular

- mechanics
- electricity
- commerce
- building
- woodworking.

The chiefs of section of the ERNET will perform this function, and they will come under the ERNET and CPA at the same time. In this manner collaboration between the two branches of the one program will be assured both at the top (a single director) and at the base (heads of the joint technical sections).

2. **Premises**

The Center's premises are to comprise, in addition to the administrative and planning offices, **model rooms** for all **specialised teaching not available** at the ERNET.

These rooms will be equipped with audio-visual and other teaching aids permitting modern and rational education geared to needs. Provision must be made in particular for :

1 model room for primary education
1 model room for secondary education (non-technical)
other rooms as required.

The Center will also contain :

1 cinema and photographic laboratory
1 prototype production workshop
lecture and projection rooms
a permanent exhibition of teaching aids and audio-visual media
miscellaneous premises

Counterpart training would start from the second year of the program, partly abroad. It is possible to contemplate the Africanization of the Center between the fourth and sixth years of its actual operation.

IV. STAFF

In accordance with the data given in Tables 1 and 1a, the numbers of PTAs and PTETs will be 384 and 240 respectively. The eight PTA sections and the five PTET sections make up thirteen classes per school year, i.e., a total of 39 classes when the ERNET is fully operational. The requirements in teaching staff for all the classes is shown schematically in Table 3.

Table 3 - Specialized Teaching Staff Requirements

TYPE OF TRAINING	NUMBER OF TEACHERS PER YEAR						TOTAL
	1st		2nd		3rd		
	PTA	PTET	PTA	PTET	PTA	PTET	
General Education	1 1/3	5/6	1 1/3	5/6	1 1/3	5/6	6 1/2
Trade Mathematics Scientific Theory and Mathematics	1 1/3	1 2/3	1 1/3	1 1/4	–	1 1/4	6 5/6
Technical Theory Workshop Organization	2 2/3	1 2/3	2	1 2/3	2 2/3	5/6	11 1/2
Applied Methodology and Psychology *	2 2/3	1 2/3	3 1/3	2 1/12	4	2 11/12	16 2/3
Methodology **	5 1/3	2 1/2	5 1/3	2 1/2	5 1/3	2 1/2	23 1/2
TOTAL (1 Teacher = 24 h)	21 2/3		21 2/3		21 2/3		65

* Under this heading, there are two categories : one for teaching pure methodology and psychology, the other is of professional teachers in the technical courses provided by the Institute with, in addition, a sound knowledge of the psychology of teaching. The latter group will be in charge of the practical work in methodology.

** These are professional teachers in various branches of the school's training courses, having, in addition, qualifications and experience in the psychology of teaching. They would be able to instruct the future teachers in the techniques of transmitting knowledge.

The total number of staff required for operation of the program will be divided into the following four categories :

- administration
- specialized teachers
- staff attached to the CPA
- additional staff.

A. Administration

1 director, chief of party
1 technical director (ERNET)

65

1 planning chief (ERNET)
1 head of CPA
8 chiefs of section
1 specialist in educational psychology
1 head of planning office
1 administrative coordinator

B. Specialized Teaching Staff

Recruitment would be carried out in the light of the observations made under Table 3.

For the first year of operations

(8 PTA classes, 5 PTET classes)

2 teachers of general education (including one responsible for the language laboratory)
3 teachers of scientific theory and mathematics
5 teachers of technical theory (1 per subject of the PTET course - see Table 1a)
4 teachers of applied methodology and psychology
8 teachers of methodology (1 per subject of the PTA course - see Table 1)
22 teachers

For the second year of operations, in addition to those for the first year

2 teachers of general education
2 teachers of scientific theory and mathematics
5 teachers of technical theory corresponding to the subjects in the PTET courses
5 teachers of applied methodology and psychology
8 teachers of methodology, 1 per subject of the PTA course
22 teachers

For the third year of operations, in addition to those for the first and second years

2 teachers of general education
1 teacher of mathematics
4 teachers of technical theory and workshop organization
6 teachers of applied methodology and psychology
8 teachers of methods
21 teachers

C. Staff attached to the CPA

15 specialists belonging to the Center (see Description of the CPA, above)

D. Additional staff necessary for :

- teaching related subjects
- secretariat
- bookkeeping
- procurement and stock
- dispensary
- employment as :

laborers
auxiliaries
watchmen
drivers

V. BUILDINGS

The approximate estimate of the buildings required has been made on the basis of the number of classes (39 for the whole school after three years) and the range of the subjects to be taught (see Tables 2 and 2a).

Table 4 - Classroom space required (ERNET)

TYPE / YEAR	1st	2nd	3rd	Total
Classrooms (simple and specialized for technology and draftsmanship)	8	9	8	25
Workshops	10	8	2	20
Laboratories	5	3	–	8
Total	23	20	10	53

Table 5 - Area needing to be built (ERNET)

Year	Type of Space			Total
	Classrooms	Workshops	Laboratories	
1st	8 x 60 m2 – 480 m2	10 x 150 m2 – 1,500 m2	5 x 120 m2 – 600 m2	2,580
2nd	9 x 60 m2 – 540 m2	8 x 150 m2 – 1,200 m2	3 x 120 m2 – 360 m2	2,100
3rd	8 x 60 m2 – 480 m2	2 x 150 m2 – 300 m2	–	780
TOTAL	1,500 m2	3,000 m2	960 m2	5,460

(One square meter = 11 square feet approx.)

Administrative and other space needs (ERNET)

Director's office
Educational methodology coordinator's office (head of planning)
Technical directors office
Secretariat
Accounting
Stockroom
Teacher's room
Dispensary
Library
Lecture Hall
Common space (gymnasium, sanitary facilities, showers, etc.)

approximately 1,400 sq. meters

CPA

Total building space: 6,860 sq.meters

IV. EQUIPMENT

At this point we refer to the equipment of premises for teaching purposes only. The requirements are for each year of operation.

Comment: Special arrangements are needed for equipment of the ERNET premises, owing to their particular purpose. Each section (trade) should have at least one classroom specially fitted for the teaching of the relevant technology. This room should be connected with a storeroom containing training aids. The classroom will be arranged to permit any necessary technical or instructional experiment. Similar criteria will apply to classrooms for the teaching of draftsmanship, science, etc.

First year

8 classrooms, i.e., 1 for each subject taught in the PTA course
8 workshops, i.e., 1 per subject taught in the PTA course
2 auxiliary workshops, 1 for welding and 1 for metalworking
5 laboratories, i.e., 1 per subject taught in the PTET courses

Second year

9 classrooms, 5 of them for technical draftsmanship
8 workshops, for applied studies corresponding to each of the subjects taught in the PTA course
3 laboratories
1 electricity
1 thermodynamic
1 metallurgy

Third year

8 standard classrooms
1 workshop for the electrical trades
1 workshop for heat treatment of metals

Equipment of the CPA

- Planning office
- 7 offices, by type of education
- 3 model classrooms (not existing at the ERNET)
- 1 language laboratory
- 1 workshop (prototypes)
- 1 lecture hall
- 1 permanent exhibition of teaching aids
- 1 cinema and photographic laboratory
- audio-visual material (closed-circuit television, overhead projectors, cameras, film projectors, etc.)
- teaching materials (books, boards, models, etc.)
- raw materials
- administrative offices
- office for educational psychology tests

VII. PROPOSED TIMETABLE

First stage: Establishment of the final detailed project.

Three months' study conducted preferably by a team of 3 experts including the future project head.

Second stage : Construction of the school.

- Distribution of premises and internal installations (electricity outlets, etc.)
- Building work
- Establish lists for goods to be ordered.

This stage, the length of which will depend on the duration of the building operations, will be about six months. The work will be done partly on the spot and partly at the Geneva office. This stage requires the full-time services of the three specialists and occasional services of consultants.

Third stage : Preparation of the school

About six months before the building is finished, it will be necessary :

- to order equipment
- to draw up the first teaching programs
- to select students
- to equip the classrooms
- to install apparatus as received.

During this stage, which will last about six months, it is essential that the directors should be present, together with the heads of sections and certain specialists in teaching methods as well as the storekeeper, making a total of 15 persons.

Comment :

Stages 2 and 3 are the preparatory part of the project. Their duration is one year, but it is not certain that these two stages will follow immediately. There may be a break if building and the related action exceed a period of nine months.

Fourth stage : Opening of courses

The opening of the ERNET should take place when the new academic year begins, in the fall.

Comment :

The total duration of the project to its complete Africanization is estimated as seven years from the opening of the ERNET. The CPA may be handed over to the African authorities earlier.

BUDGET ESTIMATE FOR THE PREPARATORY MISSION AND THE FIRST TWO YEARS OF OPERATION

		US $
I.	**Preparatory Mission** (1st stage)	
	3 specialists for 3 months travel to Europe, Africa, and U.S.A.	
	1 specialist, Geneva office Detailed preparation of study Consultants' fees	
	TOTAL FOR PREPARATORY MISSION	39,000
II.	**Preliminary Period** (First year)	
A.	**ORT Personnel** :	
	3 specialists + 1 consultant 6 months . 15 specialists 6 months	245,000
B.	**Local Personnel**: (3 months each)	
	1 skilled secretary 1 assistant storekeeper 2 drivers 4 laborers 2 watchmen	4,500
C.	**Buildings and grounds**	600,000
D.	**Equipment** :	
*	1. Equipment of offices and commercial premises	40,000
*	2. Classrooms	130,000
	carry forward :	1,019,500

		US $
	Brought forward	1,019,500
*	3. Workshops : 1 general mechanics 1 machine tool mechanics 2 automobile mechanics 2 Diesel 3 Electrical Installation 2 Electro-mechanical 2 Refrigeration 2 Carpentry 2 Masonry 1 Metalworking 1 Welding 1 Heat treatment 1 Prototype production	
	Total :	260,000
*	4. Equipment of the 8 laboratories, including 1 Physics 1 Mechanical resistance 1 Refrigeration 1 Automobile (Diesel) 2 Electricity 1 Building materials 1 Woodworking materials	
	Total :	70,000
*	5. Teaching aids	150,000
*	6. Stores (raw materials and small tools)	70,000
*	7. Cine-photo Laboratory-closed-circuit television	25,000
*	8. Utility Vehicles	10,000
*	9. Library	8,000
*	10. Language Laboratory	20,000
*	11. Permanent exhibition	12,000
*	12. Specialised technical offices – planning offices – psychotechnical offices – offices for various types of education	14,000
E.	**Operating expenditure** : Gasoline, oil, consumer items, stationery, water electricity, gas, post and telephone, etc.	15,000
F.	Accommodation for foreign staff	52,500
	Carry forward :	1,726,000

	US $
Brought forward:	1,726,000
G. Travel for experts and their families Transport of personal effects Official travel by project head consultations	50,000
H. Inspection, study travel, per diem, etc	2,500
TOTAL FIRST YEAR:	1,778,500

* = *One-time expenditure*

III. **Second year**

A. **ORT Personnel :**

Direction :

1 project head
1 technical director
1 planning chief
1 head of CPA
1 specialist in educational psychology
1 head of planning office
1 administrative coordinator
8 chiefs of section

Teaching staff :

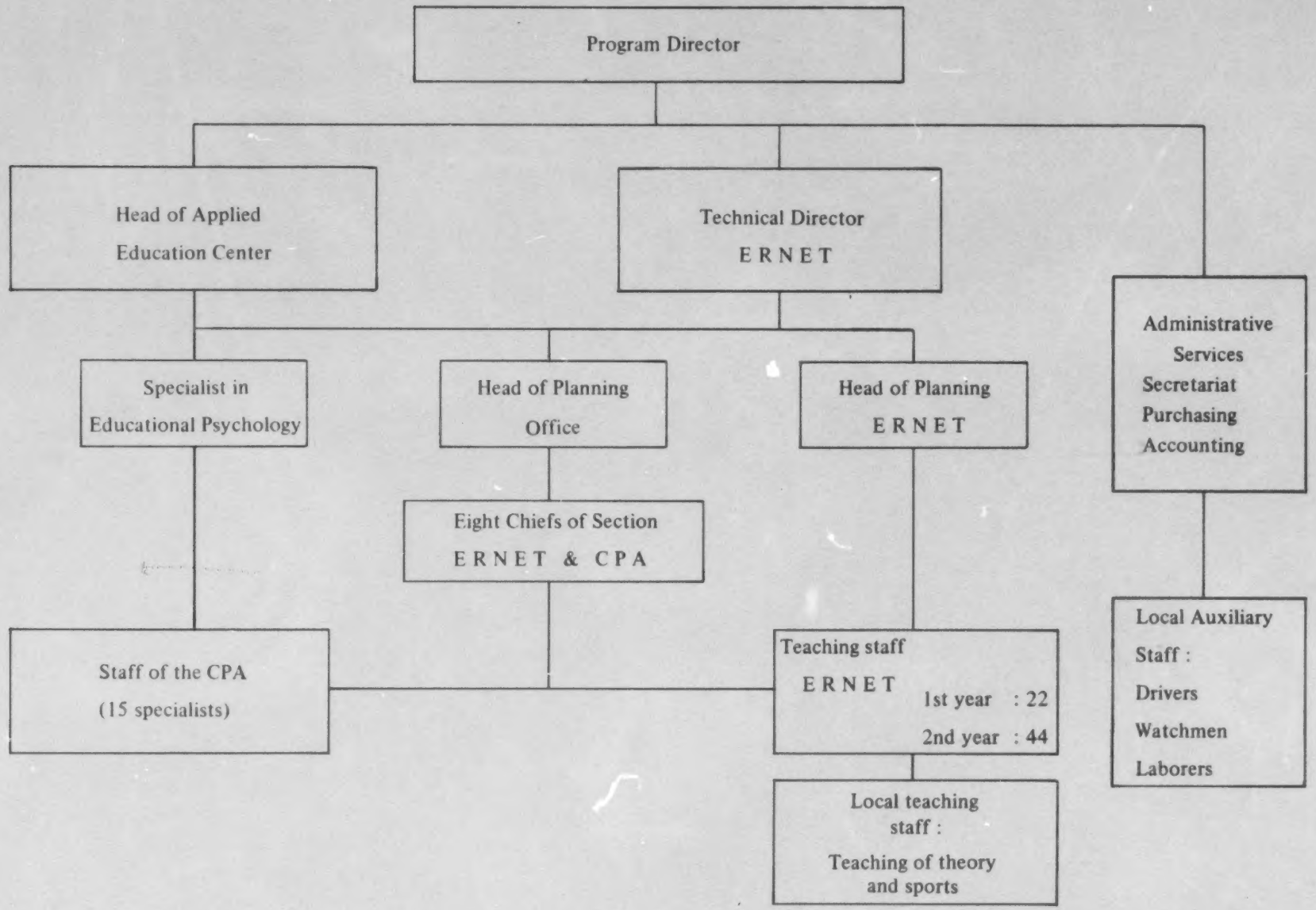
22 technical teachers
(see details page 45)

CPA Staff :
15 specialists

72

		US $
	i.e. 52 experts =	1,268,000
B.	**Local staff :**	
	Local teaching staff (equivalent to 2 man/years) Skilled secretary Accountant Shorthand-typist 5 auxiliaries Assistant storekeeper 10 laborers and cleaners 3 drivers 4 watchmen	53,000
C.	Additional equipment	130,000
D.	Stores (consumer items and small tools)	40,000
E.	Operating costs	30,000
F.	Accommodation for foreign staff (including electricity, water and gas)	364,000
G.	Travel by experts and their families Transport of effects Miscellaneous travel	155,000
H.	Inspection, visits, study travel per diem, etc.	5,500
	TOTAL 2nd YEAR:	2,045,500
	TOTAL PREPARATORY MISSION $ 39,000	
	TOTAL FIRST YEAR: $ 1,778,500	1,817,500
	OVERALL TOTAL :	$ 3,863,000

STAFF ORGANIZATION CHART


Program Director
Head of Applied Education Center
Technical Director ERNET
Administrative Services Secretariat Purchasing Accounting
Specialist in Educational Psychology
Head of Planning Office
Head of Planning ERNET
Eight Chiefs of Section ERNET & CPA
Staff of the CPA (15 specialists)
Teaching staff ERNET 1st year : 22 2nd year : 44
Local Auxiliary Staff : Drivers Watchmen Laborers
Local teaching staff : Teaching of theory and sports

PROJECT No. 6

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL HOTEL TRADES AND HUNTING GUIDE TRAINING SCHOOL

I. INTRODUCTION

During 1969 an ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member governments of the UDEAC : Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which was formely a member of the UDEAC.

The participants at the Bangui conference unanimously approved the project for the creation of a regional center for hotel trades and hunting guide training.

The majority of governments concerned are making considerable efforts to promote tourism in Central Africa. These efforts include :

— The creation of an Inter-African Office of Tourism

— The improvement of the aviation infrastructure, including the construction of new airports

— The development of tourist facilities, including the creation of a number of safari organizations and the construction of new hotels.

— An increase in publicity in the developed countries.

Unfortunately, the management of the tourist facilities (hotels, restaurants, safaris) is entirely in the hands of expatriate personnel, since the countries of Central Africa do not have at the present time either the necessary qualified personnel, or a school for the training of such personnel. The personnel needs have been evaluated by the Central African Office of Tourism for the 10 years to come as follows :

	CAR	CAMEROON	CHAD	GABON	CONGO	TOTAL
Hotel Trades	35	35	35	25	25	155
Restaurant Personnel	50	50	50	30	50	230
Hunting Guides	20	20	20	10	10	80
TOTAL	105	105	105	65	85	465

Approximately 50% of these requirements are urgent since almost all of the personnel now employed are European.

Following the interruption of the Second World War, tourism in Central Africa is experiencing a renaissance, thanks to the efforts of the governments and because of the overcrowding of vacation sites in the developed countries and the wish of vacationers to go further afield. The advent of cheap mass air transportation is certain to result in a considerable surge in tourism to the Central African Region. The importance of tourism and hotel industries for a country or for a region are indisputable. This importance is based on cultural as well as financial considerations, through direct impact on the balance of payments of the recipient countries. In addition, the development of tourism promotes the growth of local artisan activities and creates a considerable number of jobs in sectors linked to tourism, such as agriculture, transport, artisan activities, entertainment, commerce, and service industries in general.

Thus tourism plays a vital role in economic development.

II. PROJECT OBJECTIVES

The school would have as its objectives the supply of middle-level manpower for the tourist industry in the following specialties:

— hotel trades
— restaurant personnel
— hunting guides

The future hotel trades personnel will be given training which would permit them not only to manage a hotel operation, but also to hold responsible positions within the hotel complex, for example:

— reception
— treasurership
— accounting
— reservation services
— laundry operations

Their training would, consequently, not only include on-the-job training in all of the varying services, but also classes in theory of the various technical subjects such as accounting, management, human relations, hotel legislation. In addition, the trainees would be taught a major foreign language.

The future restaurant personnel would be given similar training but oriented more to:

— food supply
— food preparation
— restaurant operation

The aptitude of the students will be taken into account in orienting them toward one or other of these specialities.

The future hunting guides would be selected from among the best students in hotel trades and restaurant personnel, i.e., those that had earned the highest grades in the various disciplines taught at the school.

The hunting guide must above all provide for the shelter and comfort for his guests under difficult conditions. He should have a combination of respect for nature, sensitivity to human relations and a knowledge of certain techniques, most of which are learned on-the-job such as:

— knowledge of nature
— marksmanship
— organization of safaris
— first aid

Consequently, the balance of the training of the hunting guide will take place following his completion of the hotel school in the form of appropriate practical instruction periods, supplemented by brief technical courses in these subjects.

III. METHOD OF OPERATION

The recruitment of students would take place at the level of first or second class of the lycée. Consequently, the students would have a level close to that of the first part of the baccalaureat, without necessarily having actually obtained the diploma.

In the selection of candidates, account would be taken of their facility in human relations as well as their sense of organization.

Prior to actual startup of the school, a preliminary period of selection of students, installation of the school premises, procurement of materiel, program and curriculum preparation, and if necessary supervision of the building construction, would take place. This preparatory period, estimated at one year, would require the employment of one specialist, the future chief of the project.

The hotel trades school should be situated in or near to an existing hotel or in a building specifically designed for this purpose which would operate as a medium-price hotel with the students and teachers as the operating personnel. This hotel would have the advantage of encouraging less-affluent visitors to come to Central Africa. Training, which would be essentially of a practical nature, (approximately 60% on-the-job, and 40% technical theory courses) would be carried out using modern methods involving maximum student participation, which ORT has already used successfully in a number of developing countries.

The length of studies would be two years for the hotel trades and restaurant sections, and four years for the hunting guides.

The two years of supplementary study for the training of hunting guides would be composed of:

— two periods of one month each for special courses
— a training period with the Forestry Service in the savanna area
— a training period as assistant to an experienced hunting guide
— a training period at the School of Nature located at Garoua, Cameroon.

At the beginning of the second year of the project, fifty students would be admitted to the school, divided into two identical classes. After one year of studies, the students would be divided into two different classes, one consisting of restaurant personnel and the other of hotel personnel, based on the preferences of the students on one hand, and on their aptitudes on the other. At this point, a second class of students would be admitted to the school. At the end of the final year, ten students will be selected for training as hunting guides.

Based on the foregoing, the school would produce the following groups:

— 19 restaurant personnel per year, beginning with the third year of the project,
— 19 hotel trades personnel, beginning with the third year of the project,
— 10 hunting guides, beginning with the fifth year of the project.

After 10 years of activity, including the preparatory year, the program will have provided the following personnel:

— 133 restaurant personnel
— 133 hotel personnel
— 50 hunting guides

This would cover approximately 60% of future needs.

Beginning with the fifth year of the project, the Africanization of training in the hotel and restaurant trades, following one year of overseas training of the counterparts, would be possible. The school could thus be completely turned over to its local authorities in its seventh year of operation.

It should be noted that beginning with the second year of the program, no financing, other than that necessary for the payment of the instructors, would be necessary, since the hotel school should earn enough to cover its own expenses.

IV. BUILDING REQUIREMENTS

Classroom needs:

— 5 classrooms
— 1 audio-visual room
— 1 typing room and model office
— 1 library
— 1 language laboratory with audio-visual center

Administrative space needs:

— 1 instructor room
— 1 office for project head
— 1 secretarial office
— 1 stockroom
— sanitary facilities
— cloakroom

approximately 750 m^2 (8,200 sq. feet)

Should the school not be located on the premises of an existing hotel, one would have to be constructed having approximately 1,000 - 1,200 m^2 (10,000 - 13,000 sq. feet).

V. PERSONNEL

ORT Personnel

1st year : 1 chief of party

2nd year : 1 chief of party
2 hotel trades instructors
1 restaurant specialist
1 commercial studies instructor

3rd year : same personnel plus :
2 hotel trades and restaurant instructors

4th year : same personnel plus :
1 hunting guide.

Local Personnel :

1st year : 1 secretary
1 laborer

Second year onwards :

1 secretary
1 gardener
1 caretaker
1 night watchman
1 chauffeur
2 laborers.

Locally - hired teachers : approximately 20 hours per week of instruction in French, sports, etc.

VI. BUDGET ESTIMATE FOR THE FIRST TWO YEARS OF OPERATION

		U.S.$
A.	**Buildings:** (Should it be necessary to build a small hotel, estimated cost, including construction, equipment and furniture would be approximately U.S.$200.000).	90,000
B.	**Expatriate Staff**	
	First year	24,000
	Second year	150,000
	(Third year onwards - per year $173,000)	
C.	**Local personnel**	
	First year	6,000
	Second year onwards - per year	18,000
D.	**Material, equipment and operating costs:**	
	Training aids	9,000
	25 seat language laboratory	20,000
	Office machines	3,500
	Typewriters	2,500
	Office furniture	4,000
	Furniture for 5 classrooms	9,000
	Other furniture	3,000
	Textbooks, stationery, etc.	8,000
	Raw materials ($5,000 per year)	10,000
	Stockrooms ($4,000 per year)	8,000
	Miscellaneous ($5,000 per year)	10,000
	Operating expenses ($14,000 per year)	28,000
E.	**Expatriate housing, including electricity, gas, water:**	
	First year	7,000
	Second year	42,000
	(Third year onwards - per year $49,000)	
F.	**Utility Vehicles:**	
	1 pickup, 1 jeep	6,000
G.	**Travel of staff and families and transportation of personal effects:**	
	First year	4,000
	Second year	25,000
H.	**Inspections, consultations, per diem, etc.:**	
	($3,000 per year)	6,000
	TOTAL	493,000

NOTE:
Beginning with the fifth year of the project, overseas training for eight counterparts would begin, and the cost of this training is estimated at $50,000 per year.

PROJECT No. 7

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL CENTER FOR THE TRAINING OF WATCH AND INSTRUMENT REPAIR TECHNICIANS

I. INTRODUCTION

II. PROJECT OBJECTIVES AND OPERATION

- A. Objectives
- B. Method of Operation
  1. Bases
  2. Students
  3. Training
  4. Enrollment
  5. Personnel
  6. Buildings
  7. Equipment
- C. Location of the Center

III. TIMETABLE OF OPERATIONS

IV. BUDGET

- A. Project Preparation, Construction, Installation
- B. ORT Personnel
- C. Local Personnel
- D. Buildings and Grounds
- E. Equipment
- F. Operating Expenses
- G. Staff Housing
- H. Vehicles
- I. Travel and Transportation
- J. Consultation, Inspection

I. INTRODUCTION

During 1969 an ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member governments of the UDEAC: Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which was formerly a member of the UDEAC.

During the course of the field survey the total absence of skilled technicians capable of maintaining and repairing watches, clocks and delicate instruments was found to be common in all countries visited.

Recommendation 8, which was reviewed by the delegations attending the Bangui conference, received unanimous support. This recommendation called for the creation of a school which would "not only train watch repair specialists, but would also train precision mechanics and maintenance and repair personnel for control instrumentation (aircraft instruments, electric meters, etc.)".

It is virtually impossible to find, in the UDEAC region, local technicians capable of carrying out repairs or maintaining watch and clock mechanisms as well as other types of control apparatus. The result is that when materiel of this type becomes unserviceable it is necessary to seek the services of the few expatriate technicians available or, in most cases, to send the various types of equipment overseas for repair. In the latter case the loss of time must be added to the extremely high cost of repairs. A limited quantity of locally-trained technicians in this field would permit better maintenance and would result in a higher level of productivity of the equipment concerned.

II. PROJECT OBJECTIVES AND OPERATION

A. Objectives:

The creation of a regional center for the training of watch and instrument repair technicians corresponds to a real need. The labor market in the UDEAC countries can absorb, without any difficulty, from 10 to 15 specialists annually in this field. Trained specialists would be absorbed by both the private sector, as watch and clock repair specialists, as well as the public sector for the maintenance and repair of control instruments, laboratory measuring devices and equipment utilized in applied research analysis activities.

Graduates of the center would play an important role in those cases where partial manufacture or assembly of watches and clocks or instruments would be created. These graduates would also be available to assist in development of any precision activities to be undertaken in the region.

B. Method of Operation:

1. Bases

The length of studies, taking into account recruitment level, would be two years. A supplementary year of training would be given to those graduates of the watchmaking course who demonstrated superior ability for specialization as control and measuring instrument repairmen.

The center would function with a single class, that is to say, there would be graduation and recruitment every two years. Every third, fifth and seventh year, there would be a graduating class of control instrument repairmen. This initial arrangement could easily be modified in order to permit annual graduation, in the light of labor market conditions. The following table sets forth the proposed operating schedule of the center:

Year of Operation	1st	2nd	3rd	4th	5th	6th	7th etc.
Number of Classes	1	1	2	1	2	1	2
Category of Graduates		W	I	W	I	W	I

W = Watch Repair I = Instrument Repair

2. Students

Recruitment will take place at the level of the BEPC or equivalent. Arrangements will be made in order to permit the integration into the center of those candidates having a CAP certificate in either the machinist or electro-mechanics specialty.

Selection criteria for a watch repair specialist are precision, a sense of order and cleanliness, and an aptitude for precision mechanics. From a physical point of view the candidates must have a steady, dry hand. In addition good eyesight and ability to concentrate are indispensible.

The recruitment for the class of instrument and control repair specialists will be carried out from among the watch repair graduates. They should have an aptitude for dealing with abstract concepts and be oriented toward electricity and electronics.

3. **Training**

The ratio between shop and laboratory work and theory classes should be approximately two-thirds for shop and one-third for theory.

The shop work would begin with micro-mechanics for the purpose of providing general manual training. Through the fabrication of personal tools and appropriate exercises the student will learn a variety of machine operations including filing, turning, drilling, polishing, sharpening of tools, drills and taps. Heat treating and hardening of metals would also be dealt with.

This would be followed by the other standard types of work involved in this kind of training such as truing of wheels, drilling and shaping of jewels and fabrication of various watch and clock parts.

This would be followed by assembly of watch and clock movements, with increasing order of difficulty beginning with large clock (alarm and other), and with other mechanisms of a fairly simple nature such as winding mechanisms, time setting mechanisms, wheelworks and finally escapements.

The next operation would consist of installation of hairsprings and balance wheels and the various adjustments required. This would be followed by adjustment, watch assembly and practice on watch repair. Repairs would be carried out on clocks, watches of all types including automatic, calendar and chronometers. Also small clocks, electric clocks and electronic mechanisms would be assembled and repaired. Work would be done on regulating and adjusting the various control apparatuses.

Typical theory instruction would include specialized knowledge of theory of watches and clocks, electricity, complicated watches, after-sales service, quality concepts, and current inventory and ordering procedures.

4. **Enrollment**

Starting with a class of 25 students for the first year, and allowing for attrition going into the second year it is estimated that approximately 20 qualified watch repair technicians would be graduated. Beginning with the third year of operation of the Center the total enrollment would include, in addition to the 25 students newly recruited, a group of 7 to 10 students in the instrument repairs section. The enrollment by year of operation of the Center would be following:

Year	1st	2nd	3rd	4th	5th	6th	7th	etc
Enrollment	25	20 W	25 I	10 20 W	25 I	10 20 W	25 I	10 "

W = watch repair graduates

I = instrument repair graduates

It will be noted from the foregoing chart that every second year of operation the enrollment drops from 35 to 20. It would be possible, beginning with the fourth year, to create a cooperative made up of four or five watch and instrument repair specialists, who could, under the direction of the center, begin to take on outside work.

5. **Personnel**

In addition to local personnel who would be necessary for the teaching of general subjects (approximately 4 hours per week for the watchmakers), and who would be hired on a part-time basis, the project would require the following expatriate personnel:

— The project director who would teach technical theory subjects, beginning with the first year of operations
— A laboratory and workshop specialist beginning with the first year of operations
— An additional specialist beginning with the third year of operations.

6. **Buildings**

Administrative:	
Director's office	20 m²
Instructor's office, also used as technical studies office	40 m²
Secretarial office	20 m²
Stockroom	50 m²
Sanitary facilities	50 m²
Classrooms:	
Theory classroom	60 m²
Main workshop	140 m²
Supplementary workshop required beginning with the third year	60 m²
TOTAL:	approximately 440 m² (4,700 sq.ft)

7. **Equipment**

Details are shown under the corresponding line item in the budget. Estimates are based on an enrollment of 35 students.

C. **Location of the Center**

The ideal solution would consist of the creation of a center, completely independant and autonomous. However, it would also be possible to locate it in conjunction with a technical lycée which had sufficient available space. If the latter solution should be adopted it would be indispensable that the management of this center should be completely independent.

III. TIMETABLE OF OPERATIONS

First phase: Project preparation, lasting approximately 3 months, the objective would be the working out of a detailed operating plan for the school. This would be carried out by a specialist, preferably the future director of the center.

Second phase: Ordering of materiel and establishment of the center. This would last approximately four months. At that time the presence of the director and the specialists in workshop training is necessary. It is also necessary for the auxiliary personnel to be in operation.

Third phase: Opening of the center (watch repair section only). At this point in time the employment of a general studies instructor is indicated.

Fourth phase: Beginning with the third year of operation, an instructor in the repair of control and measuring instruments would be required.

The progressive takeover of the center by locally-trained personnel would be possible beginning with the end of the fourth year of general operations.

IV. BUDGET ESTIMATE FOR THE FIRST TWO YEARS OF OPERATION

		U.S.$
A.	Project preparation and start-up (6 months)	25,000
B.	ORT personnel:	
	2 specialists (2 years)	98,000
C.	Local personnel:	
	1 secretary 2 laborers 1 night watchman local teaching personnel (**$** 19,000 per year)	38,000
D.	*Buildings and grounds:	40,000
E.	Equipment:	
	*25 individual work places at **$**600 each	15,000
	*furniture	3,000
	*machine tools	12,000
	*equipment	6,000
	*stock of tools and raw materials	6,000
	*classroom equipment	2,500
	*training aids	5,000
	*textbooks, manuals, stationery	5,000
	miscellaneous	6,000
F.	Operating expenses: **$**1200/month	28,800
G.	Expatriate staff housing (including electricity, water and gas):	
	First year: **$**14,000 Second year: **$**18,000	32,000
H.	Utility vehicle	3,000
I.	Travel of staff and families, and transportation of personal effects	7,000
J.	Inspections, consultations, per diem, etc.	5,000
	TOTAL: **$**337,300	

*one-time expenses

PROJECT No. 8

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL MERCHANT MARINE SCHOOL

I. INTRODUCTION

During 1969 an ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member governments of the UDEAC: Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which was formerly a member of the UDEAC.

During the field study carried out by the ORT team, the considerable number of marine diesel engines and outboard motors which were out of use in many of the coastal towns, because of the lack of mechanics capable of repairing them, was constantly apparent.

Also, in the shipyards of the port cities of Central Africa, such as Douala, Libreville, and Port Gentil very few qualified African technicians could be found. A similar situation exists in the interior where a great deal of river and lake traffic utilizes internal combustion engines.

As pointed out in the report industrial fishing is undergoing a considerable expansion, especially in Cameroon and Gabon. The governments concerned are currently making considerable capital investments in this sector, but there are no qualified personnel available either to repair, operate or maintain the following:

- refrigeration installations
- diesel and gasoline motors
- electrical installations
- mechanical equipment
- electronic equipment and instruments (radios, radars, sonars, interphones, etc.)

It is frequently not possible to repair damaged vessels in Central African ports, not because of inadequate equipment, but because of the lack of qualified personnel in sufficient quantity. What few qualified personnel are available are expatriates, resulting in extremely high operating costs for repair facilities.

In Cameroon alone there is a fishing fleet of 23 vessels which will shortly grow to 34, composed of refrigerated trawlers, shrimp trawlers and deepsea fishing vessels (see pages 47 and 50 of the report).

Fish breeding and lake and sea fishing are of fundamental importance for Africa, both for solving nutrition problems and for creating a fishing industry which would be economically viable.

For the foregoing reasons in a number of cases the ORT team was approached by African leaders and requested to recommend the creation of a merchant marine training school. This recommendation was particularly welcomed at the conference which was held in Bangui.

II. PROJECT OBJECTIVES

The objectives of this project are to create a school which would train, in approximately three years, highly qualified specialists in the following skills :

- marine electro-mechanics
- marine refrigeration
- marine mechanical construction
- engine mechanics
- marine electronics specialists.

The electronics specialists would be trained so that they would be able to install, maintain, and repair the installations and high voltage electrical equipment installed on ships and in ship repair facilities.

The refrigeration specialists would be able to install, maintain and repair the refrigeration installations on board vessels and in ports.

The mechanics should be completely familiar with shipbuilding procedures (steel and non-ferrous metals). They would also receive training in the following specialties :

- heat treating of metals
- welding
- fitting
- machine tools
- sheet metal work
- ship's hull work

The foregoing skills should permit the technicians to install ship's mechanical equipment, to repair equipment and sub-assemblies, such as hulls, winches, transmission assemblies, pullies, anchor gear, gangways, boilers, smokestacks, propellers, etc.

The engine specialists should be skilled in diesel and gasoline, internal combustion engines. The majority of them would work on board ship as engineroom mechanics, while the others would be assigned to shore-based repair installations.

The electronic specialists would be trained so that they would be able to repair all electronic equipment used in the merchant marine, including radio installations, telephone installations, and radar. They should also be qualified to be able to operate radio equipment on board ship.

III. METHOD OF OPERATION

Selection and recruitment of students would be from those at the CAP or the BEP level, but would not actually require the possession of such certificates for admission.

The mechanics should have had at least two years of training in an automobile mechanics section of a CET.

The electronics, electro-mechanics and refrigeration specialists should have had at least two years of study in the electricity section of a CET.

As for the future machinists, they should have had the foregoing training in a machinists section.

The first year of the program would consists of the following steps:

- pre-selection of the students
- observation of shipbuilding techniques
- fitting-out of shops and quarters
- procurement
- pinpointing of specific needs for skills in the various specialties
- setting-up of a program of collaboration with a local or foreign shipping company, such as, SOPECOBA or ZIM. This collaboration would permit the students to be assigned to on-the-job training activities during the summer months.

The first, or preparatory, year would require the presence of two expatriate technicians — the future project head and the technical coordinator.

The second year would be devoted to the training of five classes of 20 students (engine room and ship construction, electro-mechanics, refrigeration and electronics).

At the beginning of the third year of the program (which would be the second year of training) the students would be divided up by specialty. At the same time recruitment would be carried out for the group beginning the first year. The school would at this point have ten classes, five first-year and five second-year.

During the fourth year of the program the school would have five new classes, first-year, and the number of students would then stabilize at approximately 300. Following the foregoing timetable, the school would graduate approximately 90 students a year, beginning with the end of the fourth year, as set out in the following table of student enrollment:

Specialty	Year		
	1st	2nd	3rd
Mechanics	20	19	18
Metalworking	20	19	18
Electro-mechanics	20	19	18
Refrigeration	20	19	18
Electronics	20	19	18
Total 285 (in 15 classes)	100	95	90

At the end of the fourth year the Africanization of the project would begin. The future counterparts, who would replace the expatriate specialists, would be selected from among the best students of the first graduating class, but would not be limited to this source. Their technical and teacher training period would last two years and would take place overseas.

The seventh and last year of the project would be devoted to total Africanization of the project and, at this point in time, expatriate personnel would be cut in half. The counterparts would work with a few of the original teaching staff during one school year following which the program would be completed and turned over to the local competent authorities.

The training program carried out at the merchant marine training school would use modern methods that have been used with considerable success by ORT in a number of African countries. Stress would be placed on practical shop work, which would account for approximately 60% of the total training time.

The school should be located at a port with access to a shipyard, or failing this, the school should have a small private port available.

IV. BUILDING REQUIREMENTS

Classroom needs:

10 classrooms
1 preparation room
1 lecture hall (capacity 100 persons)
1 library
1 instructors room
2 draughting rooms

Approximately 1000 m² (11,000 sq.ft.)

Administrative needs:

1 office for project head
1 secretarial office
1 technological coordinators office
1 technical studies office (proctor)

Approximately 100 m² (1100 sq.ft.)

Workshops:

1 machine shop
1 electromechanics shop
1 motor shop
1 air-conditioned diesel laboratory

1 refrigeration shop
1 metalworking and welding shop
1 fitting shop
1 electronics laboratory
1 electricity, physics and chemistry laboratory
1 materials-testing laboratory

Approximately 1500 m² (16,000 sq.ft.)

Miscellaneous:

Stockroom
Sanitary facilities
Dispensary
Cloakroom

Approximately 350 m² (3,800 sq.ft.)

Total Area: Approximately 3000 m² (36,000 sq.ft.)

V. PERSONNEL

ORT Personnel:

First year: 1 chief of project
1 technical coordinator

Second year: Same, plus
1 technical studies specialist
1 technological studies specialist
1 storekeeper
1 motor mechanics specialist
1 metalworking specialist
1 electro-mechanics specialist
1 refrigeration specialist
1 electronics specialist
1 machinist specialist

Third year: Same, plus
1 instructor of physics, chemistry and materials testing
1 administrative assistant
1 motor mechanics specialist
1 welding specialist
1 electricity specialist
1 refrigeration specialist
1 radio specialist

Fourth, fifth & sixth years: Same, plus
1 machinist specialist
1 metalworking specialist

1 electro-mechanics specialist
1 refrigeration specialist
1 electronics specialist

Seventh and final year:
chief of project
1 technical coordinator
1 technical studies specialist
1 technological studies specialist
1 storekeeper
1 motor mechanics specialist
1 metalworking specialist
1 electromechanics specialist
1 refrigeration specialist
1 electronics specialist
1 machinist specialist
1 physics, chemistry and materials testing instructor
1 administrative assistant

Local Staff:

First year:
1 secretary
2 laborers
1 night watchman
1 chauffeur

Second year:
Same, plus
1 typist
2 janitors
1 gardener
1 caretaker
1 chauffeur
1 assistant storekeeper

Locally-recruited instructors for sports, mathematics, French and other subjects for approximately 50 hours per week.

Third year:
Same, plus
50 hours per week of theory

Fourth and following years:
Same, plus
50 hours per week of theory

VI. BUDGET ESTIMATE FOR THE FIRST TWO YEARS OF OPERATION

			U.S.$
A.	**Buildings:**		230,000
B.	**Expatriate Staff:**		
	First year	2 specialists	48,000
	Second year	11 specialists	274,000
	Third year	18 specialists $432,000	
	4th, 5th, & 6th years	23 specialists $552,000	
	Seventh year	13 specialists $312,000	
C.	**Local Staff:**		
	First year —		11,000
	Second year —		33,000
	Third year —	$ 47,000	
	Fourth & following years —	$ 61,000	
D.	**Equipment, material, tools:**		
	Stockroom (expendable items, hand tools parts, etc.)		
	First year —	$ 40,000	
	Following years —	$ 20,000 p.a.	60,000
	*Office furniture		5,000
	*Classroom furniture		25,000
	*Audio-visual equipment		16,000
	*Training aids $6000 per year		12,000
	*Machine shop		55,000
	*Electro-mechanics shop		22,000
	*Motor shop		18,000
	*Diesel laboratory		15,000
	*Refrigeration shop		50,000
	*Metalworking, forge, welding		7,500
	*Fitting shop		4,500
	*Electronics laboratory		20,000
	*Physics, chemistry, electricity laboratory		18,000
	*Materials testing laboratory		4,500
	Miscellaneous $24,000 per year		48,000
	Operating expenses $12,000 per year		24,000
		carried forward	$1,000,500

		U.S.$
brought forward		$1,000,500
E. Expatriate staff housing (including electricity, water and gas)		
First year		15,000
Second year		77,000
Third year	$126,000	
4th, 5th & 6th years	$161,000	
Seventh year	$ 91,000	
F. Utility vehicles		
*1 pickup, 1 four-wheel drive jeep, *1 staff car		10,000
G. Travel of staff and families and transportation of personal effects:		
First year		6,000
Second year		33,000
Third year	$ 54,000	
4th, 5th & 6th years	$ 66,000	
Seventh year	$ 39,000	
H. Inspections, consultations, per diem:		6,000
TOTAL:		$1,147,500

*one-time expenses

PROJECT No. 9

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL CENTER FOR THE TRAINING OF TAXIDERMISTS

I. INTRODUCTION

During 1969 ar ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member governments of the UDEAC (Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which was formerly a member of the UDEAC).

During the course of discussions at the conference a number of delegations stressed the need for filling the gap, not only in Central Africa, but in Africa in general, of lack of trained taxidermists.

The director of tourism of the Central African Republic, as well as other leading figures, placed great emphasis on this question during the conference. The problem revolves about the treatment, conservation and mounting of animals, birds, fish, insects, reptiles, and hunting trophies, with a view to their exportation towards the developed countries where such articles are in demand, not only by individuals as decorative items, but also by schools for the teaching of the natural sciences and for museums of natural history.

In Central Africa it is impossible to obtain either a snake skin or a crocodile skin because of poor tanning methods. It is also impossible to find a mounted reptile or mammal.

While the creation of group of artisans able to carry out these tasks would not only create a new source of employment, also it would represent for the governments concerned a considerable source of foreign exchange earnings.

II. PROJECT OBJECTIVES

The objectives of this project are to train approximately 60 skilled taxidermists (length of training 3 years), capable of mounting animals, birds, insects, fish, and reptiles, and to tan properly valuable animal skins. Creation of such a group of artisans would have the following effect:

- it would create a viable and active new form of employment
- it would create important sources of export revenue

— it would encourage and support the tourist industry by making possible the mounting and stuffing of hunting trophies and would permit the sale to visitors of examples of the natural fauna of Central Africa.

III. METHOD OF OPERATION

There would be no particular restrictions with respect to the age of students admitted to the Center.

All that would be required would be a primary school education (6 years) with the ages of the candidates varying between 17 and 22 years. The study program would be essentially a practical one, but would include certain technical theory courses, particularly : natural sciences, basic accounting, commercial correspondence, arithmetic review, technology of taxidermy, technology of tanning, basic chemistry applied to taxidermy, and the study of instruments and their application.

The practical work (averaging 25 hours per week) would be supplemented by field work.

The length of studies would be three years. This Center would admit only one class of 20 students every three years, which would permit progressively meeting the needs of the UDEAC countries and of Chad, and which would entirely cover their needs in approximately 10 years.

Following the first graduating class of the Center the best four graduates would be selected for supplementary training, lasting two years with a view to making them into instructors, replacing the ORT specialists. This counterpart training would take place during the first year at the Center itself, with the trainees taking the role of assistant instructors, while the second year would take place overseas, in conjunction with the Museum of Natural History.

Consequently, the total duration of the project is five years. At the end of that period not only would the Center be Africanized but it would be entirely autonomous from the financial point of view, thanks to the production and sale of its products.

The Center would also be in a position to organize refresher courses for local tanners.

IV. BUILDING REQUIREMENTS

Classroom needs :

1 Taxidermy laboratory
1 Tannery
1 Classroom
1 Preparatory room
1 Instructors room
1 Stockroom

Administrative space needs :

1 Office for project head
1 Secretarial office

Miscellaneous :

Cloakroom
Dispensary
Sanitary facilities

Total area : approximately 600 m2 (6,500 sq.ft.)

V. PERSONNEL

ORT Personnel :

1 Chief of Party (teaching certain courses)
2 Taxidermy specialists

Local Staff :

1 Secretary
1 Chauffeur
2 Janitor/Laborers
1 Caretaker
1 Night watchman
1 Stockroom clerk
Part-time instructors teaching approximately 12 hours per week.

VI. BUDGET ESTIMATE FOR THE FIRST TWO YEARS OF OPERATION

		U.S.$
*A.	**Buildings and Grounds**	50,000
B.	**Expatriate Staff** $72,000 per annum	144,000
C.	**Local Staff** $22,000 per annum	44,000
D.	**Equipment, material, tools :**	
	*— Classroom and office furniture	10,000
	*— Training aids and documentation	8,000
	*— Taxidermy laboratory	22,000
	*— Tannery	8,000
	*— Raw materials and hand tools :	
	— First year $12,000	
	Following years $6,000	18,000
	carried forward :	$304,000

		U.S.$
	brought forward	$304,000
	— Textbooks, school supplies, etc., $3,000 p.a.	6,000
	*— Hunting equipment and supplies	3,000
	— Miscellaneous $4,000 per annum	8,000
	*— Air conditioning	1,800
E.	**Expatriate housing (including electricity, water and gas)** $28,000 p.a.	56,000
F.	**School operating costs**	
	Electricity, water, gas Postal, telephone, cables Gasoline Transportation Medical needs and miscellaneous $10,000 p.a.	20,000
*G.	**Two utility vehicles**	
	(one 1-ton truck, one pick-up)	5,000
H.	**Travel of staff and families, and transportation of personal effects**	28,000
I.	**Inspections, consultations, per diem, etc.**	4,000
	TOTAL :	435,800

NOTE :

1. Cost of transportation of school equipment and supplies is included in foregoing estimates. Customs duties are not included as it is assumed that these items will enter duty-free.

2. Beginning with the end of the fourth year of operations, one year of overseas training is envisaged. It is estimated that this training will cost $25,000.

3. The cost of the first two years of operating particularly the first year, is considerably higher than the following years because of the one-time capital expenditures.

*One-time expenditure

PROJECT No. 10

PROJECT PROPOSAL FOR THE CREATION OF A REGIONAL AGRO-MECHANICS TRAINING CENTER

I. INTRODUCTION

During 1969 an ORT team carried out a survey in Cameroon, Chad, Central African Republic and Gabon for the purpose of attempting to identify the needs for regional action in vocational training. The preliminary results of this survey were incorporated in a draft report which was the main basis of discussion at a conference held in October 1969, in Bangui, under the auspices of the Union Douanière et Economique de l'Afrique Centrale (UDEAC). The representatives from the member Governments of the UDEAC : Cameroon, Central African Republic, Gabon and Congo (Brazzaville) were present at this conference, as well as a representative of the Government of Chad, which was formerly a member of the UDEAC.

80% of the population of the member countries of UDEAC and of Chad, or over 9,000,000 persons, have as their principal activity, agriculture. Major crops produced are cotton, millet, peanuts, cassava, sorghum.

In addition, the industrial sector is based principally on the processing of agricultural and forest products. The modernization of the economies of these countries is closely linked to improvement in agricultural production methods.

During the course of the survey described above, carried out by the ORT team, a considerable amount of time was devoted to the agricultural sector. Discussions were held with representatives of the Ministries of Plan and Agriculture in the countries visited for the purpose of determining where the major priorities exist. Efforts by the respective governments as well as by private enterprise to involve the persons working in the agricultural sector are apparently succeeding. While much of this improvement is concerned with improved seed varieties, use of fertilizers, etc., in a great number of instances mechanization and motorization of agricultural methods, particularly in connection with land clearance and preparation as well as for harvesting, is gaining in importance.

The various Ministries of Agriculture in the countries reviewed are making particular efforts to accelerate the use of mechanized agricultural equipment.

In many instances the mechanization of agriculture has been held back through a lack of qualified personnel able to maintain repair and overhaul of various types of equipment involved (bulldozers, tractors with accessories, harvesters.)

At the present time the kind of work described above is in many instances under the direction of and in many cases carried out by expensive expatriate technicians.

Part One of this survey describes in a number of cases training programs that are being carried out in this sector. Unfortunately, for the most part, these training programs are concerned mainly with the training of low level and relatively unskilled personnel.

The principal requirements are, at a higher level, that of Chief of Section and Shop Foreman. The training of semi-skilled specialists in agro-mechanics can, and for the most part is, being carried out at the national level in a number of countries.

II. PROJECT OBJECTIVES

The objectives of this project are to create a regional center for agro-mechanics training which would train qualified people at two levels :

A. — Shop foremen who would supervise the repair and maintenance of all equipment utilized in the agricultural sector.
— Chief mechanics specialized in the repair and tune-up of gasoline and diesel engines as well as accessory equipment.

B. — Section chiefs capable of repairing agricultural equipment.

The Center would have a training capacity of :

— 15 to 20 shop foremen every three years
— 15 to 20 chief mechanics every two years
— 15 to 20 chief agricultural specialists every two years.

Training would be carried out using methods perfected by ORT in other African countries. It would include courses in teaching methodology and practical pedagogy, so that each graduate of the Center would be able to train qualified workers at his place of assignment.

III. METHOD OF OPERATION

Recruitment would be carried out among graduates having at least a CAP in automobile mechanics or agricultural mechanics.

Selection would be carried out following the application of standard testing and selection procedures. The future shop foremen should have at least three years of on-the-job experience before their admission to the school. This requirement is not necessary for the admission of the two other categories. The length of studies would be three years for the shop foremen and two years for the two other specialties. Each class would consist of 20 pupils.

It is planned that the Center would be Africanized six years after the beginning of the program.

Beginning with the first graduating classes those students who appear to have the greatest promise of becoming counterparts to the ORT instructors would be selected. Counterpart recruitment outside the Center could also

be envisaged. While it is not planned to have dormitory facilities at the school this could be worked out through agreement between the Governments concerned. It this were the case the budget would have to be revised.

The agricultural equipment which would be used in the Center would correspond to that utilized in the region. One of the first tasks of the future Chief of Party of this project would be to draw up an inventory of equipment used in the region based on a study which should be carried out over a period of approximately three weeks. This study would not only deal with the immediate needs and equipment used in the region but would also concern itself with that equipment which would be used in a future modernization program of the agricultural sector.

IV. BUILDING REQUIREMENTS

Classroom needs :

3 classrooms
1 preparation room
1 audio-visual room
1 lecture hall
1 technical studies office
1 library
1 instructors room
1 stockroom (tools, parts, raw materials)
1 agro-mechanics shop (open air)
1 motor overhaul shop
1 machine shop
1 welding and metalwork shop
1 electricity shop
1 Diesel injection laboratory (air-conditioned)

Administrative space needs :

1 office for project head
1 secretarial office

Miscellaneous :

Sanitary facilities
Cloakroom

Total area : approximately 1500 m2 - 2000 m2 (16,000-20,000 sq.ft.)

V. PERSONNEL

ORT Personnel

1 Chief of Party
1 Technological studies and workshop head
1 Mechanics, forge and welding instructor

5 Agro-mechanics (theory and shop) instructors
1 Diesel-injection specialist
1 Storekeeper

Locally recruited staff:

1 Secretary
1 Typist
1 Caretaker
1 Gardener
4 Laborers
1 Night watchman
2 Chauffeurs
1 Assistant storekeeper

Part-lime Local Staff:

(from 2 - 10 hours per week)
1 Sports instructor
1 Accounting and stock records instructor
1 French teacher (report writing)

BUDGET ESTIMATE FOR FIRST TWO YEARS		U.S.$
A.	**Buildings**	90,000
B.	**Expatriate staff** (chief of party and workshop head)	288,000
C.	**Local Staff** (secretary, typist, night watchman, chauffeur)	41,000
D.	**Equipment, Material, Tools:**	
	Raw materials, spare parts	36,000
	Agro-mechanics shop	72,000
	Motor overhaul shop	6,000
	Machine shop	28,000
	Welding and metalworking shop	8,500
	Electricity shop	5,000
	Diesel laboratory	16,000
	Hydraulic shop	7,000
	Training aids (shop and class)	40,000
	Manuals, films, paper	9,000
	Office, library, instructors room & technical studies office furniture	20,000
E.	**Housing for expatriate staff** (including water, gas, and electricity)	84,000
F.	**1 utility vehicle, 1 school bus**	10,000
G.	**Travel of staff and families and transportation of personal effects**	30,000
H.	**Operating costs of school**: post, cables, telephone, vehicle maintenance, medical needs, contingency	99,500
I.	**Inspections, consultations, per diem**	2,500

GRAND TOTAL : $892,500

FEDERAL REPUBLIC OF CAMEROON

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I.

INVENTORY OF TECHNICAL AND VOCATIONAL TRAINING FACILITIES IN CAMEROON

A. INSTITUTIONS AND RESOURCES ADMINISTERED BY THE MINISTRY OF EDUCATION, YOUTH AND CULTURE

A1. Institutions for long-term technical training courses.

6 technical lycées giving industrial and commercial training and schools of the same type, first and second cycle, 3 of them private.

A2. Institutions for short-term technical education and similar institutions.

54 colleges of technical, industrial and commercial training, of which 44 are private.

A3. Para-industrial and craftsmanship training.

26 rural craftsmanship sections.

Youth and popular education centers in the towns.

3 civic and vocational training centers in the rural areas.

A4. Training for girls and women (home economics and dressmaking).

A4.1 2 schools of home economics.

A4.2 9 home economics sections.

(The figures are approximate, since numerous private sections exist which are not declared to the Office of Private Education).

A5. Courses of advanced training and social development in the technical lycées.

B. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF LABOR

B1. Center for accelerated vocational training at Bassa.

B2. Centers for accelerated vocational training for office employees in Yaoundé and Douala.

C. INSTITUTIONS ADMINISTERED BY OTHER MINISTRIES

C1. Mechanical training center at Douala, under the Office of the President of the Republic.

D. VOCATIONAL TRAINING PROVIDED BY PRIVATE ENTERPRISE

E. TRAINING GIVEN THROUGH BILATERAL AND MULTILATERAL AID

E1. Activities of the *Association pour la Formation des Cadres de l'Industrie et de l'Administration en Langue Française (AFCA)*; an organization for training industrial and administrative executives in French-speaking countries.

E2. Miscellaneous: projects of several countries, the ILO, UNESCO and the Institute for Panafrican Development.

F. TRAINING ADMINISTERED BY OTHER CAMEROON ORGANIZATIONS:

City councils and the U.N.C. political party; mainly women's training centers for home economics, dressmaking and secretarial training.

A. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF EDUCATION, YOUTH AND CULTURE

Introduction

The Constitution provides that higher education, scientific research, and secondary and technical education are the responsibility of the Federal Government, primary education remaining the responsibility of the various federal authorities.

The Ministry of Education, Youth and Culture is in charge of most of education within the Federal Government. However, it should be noted that it is not responsible for :

- the National School of Administration and Judiciciary, which is the responsibility of the Assistant Minister of the Civil Service
- Social and middle-level medical education attached to the Secretariat of the Ministry of Public Health and Population ;
- the Inter-service Military School under the supervision of the Ministry of the Armed Forces ;
- the Federal Police College, attached to the Department of Security
- the Federal School of Post and Telecommunications, attached to the Ministry of Transportation, Post and Telecommunications.

In East Cameroon, primary education is directed by the Secretary of State for Education. Middle-level agricultural, forestry, zoological and cooperative education are the responsibility of the Secretary of State for Rural Development and Animal Husbandry.

In West Cameroon, responsibility rests mainly with the Secretary of State for Primary Education.

Technical education in East Cameroon is based on that of France. Moreover, the existance of home-economics and rural artisan sections, lasting 2 years, should be noted.

Additional information is shown in the annexes as follows:

Present structure of education in East Cameroon : Annex 1.

Organisation chart of the Ministry of Education, Youth and Culture : Annex 2.

Structure of English language education in West Cameroon : Annex 3.

The trends in enrollment in technical education (Items A1 and A2 only) are given in the following charts.

TRENDS IN ENROLLMENT IN TECHNICAL EDUCATION

East Cameroon

(NUMBERS OF STUDENTS)

Years of Course	1st A or 6th		2nd A or 5th		3rd A or 4th		4th A or 3rd		Second		First		Final		Total	
School year	T	G	T	G	T	G	T	G	T	G	T	G	T	G	T	G
1965-66	3 346	(1 290)	1 531	(576)	1 308	(302)	577	(86)	278	(109)	123	(6)	61	–	7 324	(2 639)
1966 67	3 177	(1 359)	2 106	(825)	1 438	(434)	938	(179)	403	(85)	186	(61)	98	(4)	8 346	(2 947)
1967-68	3 659	(1 564)	2 391	(915)	1 503	(468)	1 251	(248)	467	(111)	291	(67)	123	(18)	9 685	(3 391)
1968-69	4 304	(1 829)	2 962	(1 222)	1 718	(567)	1 327	(337)	480	(137)	346	(72)	135	–	11 272	(4 279)

West Cameroon – School year 1967-68

1967-68	500	340	340	160	30	Total : 1 370 of which 230 girls

T : Total
G. Girls

The rural crafts (SAR) and home economics (S.M.) sections are not included.

Source : Statistics Yearbook

A1. INSTITUTIONS FOR LONG-TERM TECHNICAL EDUCATION

ENROLLMENT DISTRIBUTION BY YEAR OF STUDIES

First Cycle

A1.1 PUBLIC EDUCATION

Year 1967/1968
(East Cameroon)

Year of Studies	6		5		4		3		Total		
Institution	B	G	B	G	B	G	B	G	B	G	T
Technical Lycée Douala	100	–	116	–	114	–	106	–	436	–	436
Commercial Technical Lycée for Girls, Yaoundé	–	86	–	45	–	41	–	34	–	206	206
Commercial Technical Lycée for Boys, Yaoundé	89	–	45	–	43	1	40	1	217	2	219
Total (Public)	189	86	161	45	157	42	146	35	653	208	861

A1.2 PRIVATE EDUCATION

Collège Alfred Saker Douala*	–	–	–	–	–	–	–	–	–	–	–
Collège des Nations Douala*	–	–	–	–	–	–	–	–	–	–	–
Vocational Training School R.F.C. Douala	23	–	26	–	19	–	26	–	94	–	94
Total (Private)	23	–	26	–	19	–	26	–	94	–	94
Grand Total	212	86	187	45	176	42	172	35	747	208	955

* These two schools do not have the first cycle.

B : Boys G : Girls

Year of studies / Institution		Second			First				Final class				Total
		Commercial	Industrial		Commercial		Industrial		Commercial		Industrial		
I. PUBLIC EDUCATION			T	TI	B	TE	T	TI	B	TE	T	TI	
Technical Lycée Douala	B	42	26	103	–	39	26	62	–	20	19	40	377
	G	55	–	–	–	28	–	–	–	2	–	–	85
Commercial Technical Lycée for Girls Yaoundé	B	24	–	–	–	10	–	–	–	6	–	–	40
	G	33	–	–	–	19	–	–	–	14	–	–	66
Commercial Technical Lycée Yaounde	B	55	–	–	–	33	–	–	–	20	–	–	108
	G	4	–	–	–	1	–	–	–	2	–	–	7
Total	T	213	26	103	–	130	26	62	–	64	19	40	683
	G	92	–	–	–	48	–	–	–	18	–	–	158
II. PRIVATE EDUCATION													
Collège Alfred Saker Douala	B	–	–	–	–	27	–	–	–	–	–	–	27
	G	–	–	–	–	2	–	–	–	–	–	–	2
Collège des Nations Douala	B	95	–	–	–	19	–	–	–	–	–	–	114
	G	19	–	–	–	17	–	–	–	–	–	–	36
Vocational Training School R.F.C. Douala	B	–	–	11	–	–	–	8	–	–	–	–	19
	G	–	–	–	–	–	–	–	–	–	–	–	–
Total	T	114	–	11	–	65	–	8	–	–	–	–	198
	G	19	–	–	–	19	–	–	–	–	–	–	38
Grand Total		327	26	114	–	195	26	70	–	64	19	40	881

Note : *B : Preparation for the baccalaureat économique*
T : Preparation for the baccalaureat technique
TI : Preparation for the brevet or baccalaureat de technicien
TE : Preparation for the baccalaureat technique économique
B : Boys G : Girls

Source : Statistics Yearbook 1967-68.

A2. Institutions for short-term technical education (CET) and similar private schools

These schools give a four-year course (including one year of practical training in industry) leading to the industrial and commercial CAP diploma. The list of these institutions is given below. While it has been possible to give the trades in which the students are trained in the public schools, this information was impossible to obtain for the private schools. This list includes the private institutions for technical education opened during the school year 1968/69.

A2. SHORT-TERM TRAINING (East Cameroon)

4-year course (1 of which in industry) for the CAP diploma

A2.1. PUBLIC

No.	INSTITUTIONS	No of students in 1968	Attended by	Founded in	Trades taught
	I. Center South				
1	CETI d'Ebolowa	164	Boys	1954	Masonry, carpentry
2	CETI Girls Yaoundé	132	Girls	1956	Dressmaking
3	CETI Boys Yaoundé	119	Boys	1956	General mechanics Auto-mechanics Auto electricity
	II. Coast				
4	CETC Bonadoumbé Douala	133	Mixed		Shorthand-typing Asst bookkeeper
5	CETI Girls Douala	124	Girls		Dressmaking
6	CETI D'Edéa	152	Boys	1954	General mechanics Electrical fitter Refrigeration technicians
7	CETI du Nkongsamba	114	Boys	1954	Sawmill-Metalworker technicians Carpenter
	III. North				
8-9	CETI and CETC Garoua	136	Mixed	1954	Mason, carpenter Auto mechanics Shorthand - typing
	IV. West				
10	CETI Bafoussam	138	Boys	1954	Mason Auto mechanics

A.2.2 PRIVATE (figures for 1968)

No	YEAR / INSTITUTION	1st		2nd		3rd		4th		TOTAL	
		B	G	B	G	B	G	B	G	B	G
	I - CENTER SOUTH										
	a) Catholic										
1	C.E.T. for Girls AKONOLINGA	–	31	–	26	–	13	–	–	–	70
2	C.E.T. Lablé BAFIA	39	62	–	23	12	8	27	–	78	93
3	C.E.T. Ste Thérèse Melané EBOLOWA	–	38	–	26	–	14	–	–	–	78
4	C.E.T. St-Joseph KRIBI	44	–	24	–	10	–	14	–	92	–
5	C.E.T. des Filles Nkolvé SAA	–	58	–	40	–	25	–	6	–	129
6	C.E.T. Marie Vianney Nlong YAOUNDE	–	45	–	25	–	6		6	–	82
7	C.E.T. Private NANGA EBOKO	–	32	–	12	–	–	–	–	–	44
8	C.E.T. St-Paul et St-Pierre Nsimalen YAOUNDE	–	16	–	11	–	–	–	–	–	27
9	C.E.T. For Girls Sacré-Cœur YAOUNDE	–	36	–	30	–	13	–	–	–	79
10	C.E.T. N.D. Victoires YAOUNDE	–	45	–	23	–	8	–	–	–	125
11	C.E.T. de la Retraite YAOUNDE	–	44		32		28		21		125
	CATHOLIC TOTAL	83	407	24	248	22	115	41	33	170	803
	b) Protestant										
12	C.E.T. Frank James EBOLOWA	18		12		3		6		39	
13	Séminaire Adventiste NANGA-EBOKO	–	16	–	4	4	1	–	1	4	22
	PROTESTANT TOTAL	18	16	12	4	7	1	6	1	43	22
	c) Private, non-denominational										
14	C.E.T.I. MBALMAYO	40	–	2	–	–	–	–	–	42	–
15	C.E.T. Charles Atangana YAOUNDE	211	–	45	–	36	–	28	–	320	–
16	Practical Secretarial Course YAOUNDE	90	135	68	90	5	8	11	8	174	241
	PRIVATE NON-DENOM., TOTAL	341	135	115	90	41	8	39	8	536	241
	TOTAL CENTER SOUTH	442	558	151	342	70	124	86	42	749	1066

*Figures for 1966/1967

No	INSTITUTION / YEAR	1st		2nd		3rd		4th		TOTAL	
		B	G	B	G	B	G	B	G	B	G
	II – EAST										
	a) Catholic										
17	C.E.T. Pakker ABONG MBANG	–	49	–	27	–	–	–	–	–	76
18	C.E.T. St-Joseph BERTOUA	38	–	26	–	18	–	15	–	97	–
19	C.E.T. NGEULEMENDOUKA	–	35	–	27	–	11	–	–	–	69
20	C.E.T. Private YOKADOUMA	–	42	–	–	–	–	–	–	–	42
	CATHOLIC TOTAL	38	122	26	54	18	11	15	–	97	187
	b) Protestant	–	–	–	–	–	–	–	–	–	–
	c) Private non-denominational	–	–	–	–	–	–	–	–	–	–
	TOTAL EAST	38	122	26	54	18	11	15	–	97	187
	III – COAST										
	a) Catholic										
21	C.E.T. St-Esprit DOUALA	–	57	–	29	–	18	–	–	–	114
22	C.E.T. de la Salle DOUALA	88	–	72	–	58	–	54	–	272	–
23	C.E.T. for Girls EDEA	–	33	–	18	–	19	–	–	–	70
24	C.E.T. St-Jean MBANGA	95	–	60	–	41	–	44	–	240	–
	CATHOLIC TOTAL	183	100	132	47	99	37	98	–	512	184
	b) Protestant										
25	C.E.T. GEREC NDOUNGUE	69	–	19	–	13	–	9	–	110	–
	c) Private non-denominational										
26	Private School of Commerce and Typing DOUALA	78	60	62	14	39	6	20	1	199	81
27	School of Applied Science & Orientation DOUALA	111	183	117	115	96	79	97	27	421	404

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No	YEAR / INSTITUTION	1st		2nd		3rd		4th		TOTAL	
		B	G	B	G	B	G	B	G	B	G
	III – COAST (con.)										
	c) Private non-denominational										
28	Bali Secretarial School DOUALA	27	89	45	88	30	38	32	34	134	249
29	Private Practical Commercial School DOUALA	126	44	134	26	99	9	117	20	476	99
30	Commercial and Financial Study Center DOUALA	35	11	56	5	56	4	48	8	195	28
31	Technical Center for Commercial Education DOUALA	64	34	78	38	61	27	47	9	250	[illegible]
32	Practical Training Center for Workers DOUALA	90	–	50	–	32	–	35	–	207	–
33	Commercial and financial Study Center Annex EDEA	52	16	35	6	–	–	–	–	87	22
34	Commercial Center for Accounting and Secretarial Training NKONGSAMBA	90	30	60	4	26	2	27	3	203	39
	TOTAL PRIVATE NON-DENOMINATIONAL	673	467	637	296	439	165	423	102	2172	1030
	TOTAL COAST	925	567	788	343	551	202	530	102	2794	1214
	IV – NORTH	–	–	–	–	–	–	–	–	–	–
	V – WEST										
	a) Catholic										
35	C.E.T. Ste Marie BAFANG	–	74	–	26	–	23	–	–	–	123
	b) Protestant	–	–	–	–	–	–	–	–	–	–
	c) Private non-denominational										
36	Private School of Technical Education BAFOUSSAM	218	25	82	20	20	–	4	–	324	45
	TOTAL WEST	218	99	82	46	20	23	4	–	324	168
	COUNTRY TOTAL	1623	1346	1047	785	659	360	635	144	3964	2635

Source: Statistics Yearbook 1967-68.

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A-2-3

PRIVATE INSTITUTIONS FOR TECHNICAL EDUCATION

OPENED DURING THE SCHOOL YEAR 1968/1969

NAME OF INSTITUTION	PLACE
Modern and Technical Institute	YAOUNDE
Private School of Typing	N'SAMBA
Private Secretarial Courses	MBOUDA
Normal and Private Secretarial School	BERTOUA
Technical School for Girls at Bikop	YAOUNDE
Private School of Commerce and Typing	BAFANG
Sacré-Cœur Private Technical School	BAFOUSSAM
Technical and Commercial Training Center	N'SAMBA

Source : Office of Private Education

A3. Rural craftsmanship sections (SAR) (from information supplied by the Department of Technical Education)

Aim:

To enable the future craftsman and citizen to live healthily and happily in rural surroundings as a result of his work. The SAR should be the natural follow-up to primary education, forming a vital link to ensure the transition between school and adult life.

Recruitment:

This is done after the pupil has left primary school. The pupils should have passed the age limit for admission to the sixth grade and, if possible, have the CEP.

Length of training and qualification provided:

The period of study is two years. Young people who have attended classes regularly during this period and who have given satisfaction receive a certificate indicating the trade of the future craftsman. This certificate does not have the value of a diploma.

Type of training:

Vocational training provides for periods in various sections in order to acquire the necessary principles for skilled work. The basic crafts are usually woodwork, metalwork and building construction. Local living conditions, however, govern the choice of sections.

During the first year, the apprentice tries all the different types of rural practical work before making a specific choice during the second year.

General instruction is primarily designed to teach a skill, and has as a second priority the broadening of the student's basic knowledge.

DISTRIBUTION OF STUDENTS IN RURAL CRAFTS SECTIONS, BY INSTITUTION

No	PLACE	YEAR							
		1st		2nd		3rd		TOTAL	
		B	G	B	G	B	G	B	G
	I. CENTER SOUTH								
1	AKONOLINGA	25	–	8	–	–	–	33	–
2	BAFIA	68	–	32	–	–	–	100	–
3	EBOLOWA	47	–	20	–	–	–	67	–
4	ESEKA	37	–	19	–	–	–	56	–
5	KRIBI	27	–	22	–	–	–	49	–
6	MBALMAYO	49	–	20	–	–	–	69	–
7	NANGA-EBOKO	25	–	26	–	–	–	51	–
8	NDIKINIMEKI	30	–	25	–	–	–	55	–
9	SA'A	46	–	31	–	–	–	77	–
10	SANGMELIMA	45	–	35	–	–	–	80	–
11	YAOUNDE	24	–	10	–	–	–	34	–
	TOTAL I	423		248				671	
	II. EAST								
1	ABONG MBANG	64	–	2	–	–	–	86	–
2	BATOURI	19	–	4	–	–	–	23	–
	TOTAL II	83		26				109	
	III. COAST								
1	EDEA	60	–	31	–	2	–	93	–
2	MBANGA	43	–	18	–	–	–	61	–
	TOTAL III	103	–	49	–	2	–	154	–
	IV. NORTH								
1	FORT FOUREAU	10	–	12	–	–	–	22	–
2	KAELE	21	–	5	–	–	–	26	–
3	GAROUA	19	–	17	–	–	–	36	–
4	GUIDER	17	–	–	–	–	–	17	–
5	MAROUA	31	–	2	–	–	–	33	–
6	MOKOLO	20	–	16	–	–	–	36	–
7	NGAOUNDERE	17	–	5	–	–	–	22	–
8	TCHOLIRE	10	–	18	–	–	–	28	–
9	YAGOUA	10	–	–	–	1	–	11	–
	TOTAL IV	155	–	75	–	1	–	231	–
	V. WEST								
1	DSCHANG	55	–	30	–	–	–	85	–
2	FOUMBAN	27	–	25	–	–	–	52	–
	TOTAL V	82	–	55	–	–	–	137	–
COUNTRY TOTAL		846	–	453	–	3	–	1302	–

B: Boys
G: Girls

A4. Education for girls and women (home economics and dressmaking)

A4.1. Institutions giving courses leading to the CAP diploma

a Home economics school at Sangmelima, with 40 girls

b Home economics school at Maroua, number of students not available.

A4.2. Home economics sections (SM)

Purpose :

The essential aim of the training given in the home economics sections is to give young women the knowledgee, necessary for their personal grooming as well as taking care of their families and future homes. These young women are to become enlightened citizens who will be able to improve their living conditions and participate in the material, moral and intellectual development of their community.

Recruitment :

Students are selected from young women in the regional schools who have passed the age limit for admission to the sixth grade. The CEP diploma is not required.

Period of training :

The course of study lasts for two years. Students who have attended classes regularly during this period are classified by order of merit and receive an official certificate as rural homemakers, signed by the Director of Technical Education. This certificate is not considered a diploma.

It should be noted, however, that the certificate may serve as a reference when the holder wishes to seek employment with a family, as a mother's help, etc.

Type of training :

This comprises general education (French, arithmetic, elementary hygiene, child care and domestic science) and practical training (dressmaking, cooking, washing, ironing, mending, knitting and house-cleaning).

DISTRIBUTION OF HOME ECONOMICS STUDENTS BY INSTITUTIONS
1967-68

No	PLACE	YEAR OF COURSES			
		1st Year	2nd Year	3rd Year	TOTAL
	I. SOUTH CENTER				
1	BAFIA	22	–	–	22
2	EBOLOWA	72	32	–	104
3	KRIBI	27	–	–	27
4	TOTAL I	121	32	–	153
	II. EAST				
1	ABONG MBANG	30	–	–	30
2	BATOURI	65	89	–	154
3	BETARE OYA	5	1	–	6
	TOTAL II	100	90	–	190
	III. COAST				
1	MBANGA	10	2	–	12
	TOTAL III	10	2	–	12
	IV. NORTH				
1	GAROUA	14	10	–	24
	TOTAL IV	14	10	–	24
	V. WEST				
1	FOUMBAN	5	1	–	6
	TOTAL V	5	1	–	6
COUNTRY TOTAL		250	135	–	385

Source: Statistics Yearbook 1967-68

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A5. Courses of advanced training and social advancement in the technical lycees

These courses are intended for adolescent or adult workers already employed who wish to improve their position within the enterprise. During the part-time or evening courses given in a public technical education school, they can prepare the examination for the Brevet Professionel or BEI diplomas (or by correspondence in certain private enterprises). This is a recent development, and at the time of the survey no precise statistics were obtainable.

B. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF LABOR

Training is carried out under the supervision of the Ministry of Labor, and is intended for adults (over 18).

Method :

Accelerated vocational training,

B1. FPR Center at Bassa

1967-68

SECTION	LENGTH	CANDIDATES	ACCEPTED
Auto Repairs	9 months	459	15
Sheet-metal - chassis	9 months		15

The range of trades is limited, and the number admitted to the courses is inadequate in relation to the demand as the figures indicate.

The range of trades taught should be broadened.

Inquiry showed that the most urgent needs were for electrical technicians and general maintenance workers.

B2. FPR Center for office employees, Yaoundé and Douala

The center at Yaoundé has been operating for 4 years, and recently the one at Douala was opened. The training is of the FPA type, but in reality, is advanced training.

Period of training : 9 months
Number of trainees : about 30
Sections : office employees, shorthand-typists

An employment agency is foreseen for those who have completed their training.

There are 2 entry examinations. One is for those who did not finish their studies and the other for employees already employed desireing advancement.

C. INSTITUTIONS ADMINISTERED BY OTHER MINISTRIES

C1. Mechanics' Training Center at Douala, under supervision of the Office of the President of the Republic

This center was to open with the new school year, in the fall of 1969, in new buildings. It will be run by the National Civil Engineering Machinery Pool, previously the Public Works Pool, at Douala-Bassa.

Another pool exists at Yaounde.

These vehicle and equipment pools are independently administered, and rent equipment to the administrative services. Their training problems are the following:

— Replacement of 15 French technical assistants, of middle and higher level.

— Training of skilled and highly skilled workers, up to foreman level.

— Training the users of hired equipment, chiefly heavy machine drivers.

Mr Castel is in charge of this training center.

At present there is a course in maintenance mechanics of a low technical level lasting about 3 months. Students of CEP level are selected following a series of psycho-technical tests. On completion of the new buildings, which were visited by the survey team, training courses for engine repair mechanics will begin. The candidates will be of CAP level; the method will be accelerated vocational training and the length of the course will be one year. The course will not include injection theory.

This center has been largely financed by the French Fund for Aid and Cooperation (FAC).

D. VOCATIONAL TRAINING PROVIDED BY PRIVATE ENTERPRISE

This type of training is framented in Cameroon, as illustrated by the following examples:

D1. ALUCAM Collège, Edéa

This company, producing 50 000 tons of aluminum per year and employing approximately 600 people, has undertaken the Cameroonization of its executives and supervisors.

The College recruits students having the CAP or BEI diploma for advanced training courses and specialization, plus the general courses already given. Sometimes recruitment is at the BEPC level, for a two or three year training course for foremen and supervisors.

D2. EDC (Cameroon Electricity Company)

A joint-stock company with capital of 500 million CFA francs, founded in 1963. Address: PO Box 4077, rue Dupleix, Douala.

Purpose of the company: the production, transportation and distribution of power and water.

Three types of training are given:

1st cycle: basic training. Courses leading to various examinations for CAP diploma (independent candidates).

Enrollment: about 10.

Period of training: 13 to 17 weeks, depending on the type of CAP. Mainly electricians.

2nd cycle: specialization in the following trades:
- mechanic;
- electrician;
- electrical mechanic.

Enrollment: 24

Period of training: 7 to 15 weeks, depending on the subject.

3rd cycle: intended for officials at a higher level who are following a course in electronics.

Enrollment 1967/68: 3 officials

In addition to these three types of full-time training, there is also a correspondence course preparing students for the BP and BEI diplomas. These courses of general vocational training are intended for employed workers who wish to improve their position.

D3. REGIFERCAM (Cameroon National Railroad)

Complete training is given at 2 levels.

1st grade: 3 years' training.

A diploma of completion of apprenticeship is awarded to students who have obtained the average grades required by the official regulations.

Subject	**Enrollment** (approx.)
Fitters	20
Diesel mechanics	20
Electrical fitters Electromechanics	30
General mechanics	30

2nd grade: 4 years' training

This higher apprenticeship course is intended to train foremen of diesel mechanics or electricians, and district supervisors.

Number of students: about 30.

Students who obtain the average grades required by government regulations receive a diploma of completion of apprenticeship, and are then sent for a training course abroad.

D4. RENAULT C.E.A.C.

Joint-stock company with capital of 200 million CFA francs, founded in 1950.

Address : PO Box 8, Yaoundé.

The Renault-Saviem Technical Training Center for Central Africa (CEREPAC) provides 2 cycles of training.

1st cycle : lasts 3 months ; attended in 1967/68 by 7 trainees.

Purpose : advanced automobile technical training.

The following courses are given :

a) basic training for auto mechanics ;

b) Renault technical training.
Both these courses are given by the permanent staff of the center.

c) general training, provided by the AFCA.

Qualification: no diploma is awarded, but a certificate of completion of training period.

2nd cycle : lasts 6 months ; attended in 1967/68 by 10 trainees.

Same type of training, but at a higher and more advanced level. Operates on a regional basis. Trainees include nationals of Cameroon, Congo, Chad and Gabon.

Qualification : certificate of completion of training period.

D5. UNALOR (Union Allumettière Equatoriale)

PO Box 988, Douala.

Purpose :

To train mechanics able to maintain and operate match production machinery.

Enrollment : 12, of whom 6 are nationals of Cameroon, 4 of the Ivory Coast and 2 from Upper Volta.

A certificate is awarded each student at the end of training, depending on his grades.

E. TRAINING PROVIDED BY BILATERAL AND MULTILATERAL FOREIGN AID

E1. AFCA

French, private, non-profit association, formed by French enterprises for advanced training of their staff.

AFCA has an agreement with the Government, under which the AFCA makes available to the Government its programs, training methods and courses as conceived and applied for the advanced training of supervisory employees in industry, commerce, public administration, agriculture and skilled crafts.

In addition to being assisted by the provision of money and experts, by the French Fund for Aid and Cooperation, the AFCA is assisted by the European Economic Community, which is financing the program in small entreprises in Cameroon.

Programs and activities of AFCA for 1969

a) **Programs:**

— Cycle of general practical training
— Cycle of training for supervisory heads
— Cycle of written communications
— Shorthand - English - sales training
— Stock management - bookkeeping - general organization techniques - personnel management - advanced training of supervisors and executives psycho-technical service.

b) **Activities** for the first 5 months of the school year 1968/69 at Douala and Yaoundé.

1) **Supervisors and foremen:** 177 trainees from 67 enterprises attended in evening or part-time classes. The 67 enterprises are broken down as follows:

— primary sector 3
— secondary sector 22
— tertiary sector 42

2) AFCA Carries out the training of hostesses for Douala airport (English, French),

3) Seminars for management staff from the public and private sectors.

4) **Craftsmanship:** evening courses and on-the-job counselling are a part of the management training for craftsman.

5) **Others:** training for women and girls, correspondence courses, educational psychology.

Mr Xavier Bolon, the AFCA representative in Cameroon, appreciates that his organization does not offer industrial training, and urged that ORT should do so. AFCA is mainly concerned with administrative training.

Addresses: Immeuble BP, Carrefour Persides, BP 438, Douala. Tel: 3658
Carrefour Ellig-Essono, BP 4012, Yaoundé. Tel: 4110

E2. Miscellaneous

The following data is valid as of November 1, 1968.

a) Aid from France

For the school year 1967/68, France supplied 99,300,000 CFA francs in the

technical education sector. On November 1, 1968, there were 571 French nationals working in the public education system, either technical assistants or military personnel. In private education, there were 17 persons who had a supplementary contract, and 58 military personnel. In addition, 18 volunteers were employed in general or technical education.

b) Aid from the Federal Republic of Germany

None of the German volunteers has teaching responsibilities. The Bonn Government subsidizes the agricultural training center and the experimental farm at Wum, in West Cameroon (434 million CFA francs, for building construction and for five years' operations). The directors and technicians are all German nationals. The Cameroon authorities have contributed 57 million CFA francs to the project, which was agreed in 1965 and which entered its active phase only in mid-1967.

A credit of 124 million CFA francs was reserved in 1962 for the construction of a commercial school at Muntengene, near Tiko. Discussions have still not produced results. 80 million has been put aside for equipping the future nursing school at Bamenda, to be built with FED funds in 1969 (European Development Fund).
For the moment, all German aid goes to West Cameroon, with the exception of the school at Garoua.

c) Aid from Great Britain

The only assistance furnished by the U.K. consists of a few teachers and gifts of books. The British Council supplies three teachers for the Lycée at Buéa.

d) Aid from Canada

This is now developing and becoming more varied. In 1967/68, 64 teachers were made available to Cameroon, of whom only 2 were for West Cameroon. These teachers were completely financed by Canadian aid with Cameroon supplying only local transportation and furnished accommodation. Aid in kind (school supplies, educational films) is sent to the schools, both public and private, where the Canadian teachers are employed. Printing paper has been offered to the regional center at Yaoundé which produces school textbooks.
Other aid agreements cover the planned construction and equipment of a rehabilitation center for the disabled and physically handicapped at Otele, and the extension and equipment of the CES at Bonaberi.

e) Aid from Taiwan

This consists of agricultural instructors assigned to 5 training centers.

f) Aid from the United States

The College of Arts, Sciences and Technology at Bambili, which cost 150 million CFA francs, was completed this year. There remains only one American teacher. Aid to the Technical College at Ombe is also about to end, with the return of three trainees to this school. There is one teacher in the Lycée at Buea.
The number of Peace Corps Volunteers serving in Cameroon is steadily diminishing: 9 teachers in East Cameroon, 24 in the West.

g) Aid from Switzerland

This takes the form of two financial agreements (for farm schools at Maroua and Bankara Goyang), and the organization of two advanced courses for private school teachers during the summer of 1968 (320 participants).

A technical cooperation agreement between Cameroon and Switzerland was signed in November 1968 by Mr Simon Nko'o Etoungou, the Foreign Minister, and the Swiss Ambassador. Under this agreement, Switzerland will finance part of the cost of equipping the Federal College for Educators and Social Workers (EFEAS), and will provide an architect and a building engineer, a director and assistant director for a period of 3 years.

h) Aid from Ireland

This consists of numerous missionaries sent to teach in West Cameroon.

i) Aid from Israel

Israeli aid is essentially directed towards youth outside the school system. However, simple vocational training is provided in the 6 youth clubs run by the Israelis, for a total of about 1,800 young people. There are six Israeli experts taking part in this project. One of them teaches at the National Institute for Youth, Sport and Popular Education. An itinerant training course for construction foremen operates in West Cameroon. Others are planned.

j) Aid from Italy

There is none in the training and education sector. There is a possibility of a cultural agreement being entered into.

k) Aid from the Netherlands

It is concentrated in the east ,where there are many Catholic missions (10 volunteers) and in West Cameroon (7), where the missions are also very active in education.

l) Aid from the Soviet Union

A loan was negotiated in 1966. An agreement was signed on November 11, 1967, for expanding the National College of Agriculture at Dschang and the Technical College of Forestry at Mbalmayo.

m) Aid from the European Development Fund (FED)

As of June 30, 1968, enrollment was as follows : primary schools and College at Ngaoundere : 6,507 ; expansion of Libermann College at Douala : 619 ; practical school of agriculture : 113 ; public health training in the south (including the Nurses' Training School at Bamenda) : 2,729 ; plans for the expansion of Vogt College at Yaounde : 16 ; College of Technical Education 14.

n) Aid from the United Nations and specialized agencies

In May 1968 the following experts were in Cameroon :

Number	Country of origin	Recruited by	Appointed to
1	Tunisia	ILO	Workers' education
3	France (1) Belgium (2)	ILO	Centers of accelerated training for office staff Yaounde, Douala
1	Israel	ILO	National cooperative training center, Ebolowa
1	France	UNESCO	Manual workers' production center, Yaounde
6	France (4) Belgium (2)	UNESCO	Training school for rural elementary teacher Yaounde
1	Great Britain	UNESCO	Federal linguistic center Yaounde
1	(Not available)	UNESCO	Office of Secretary of State for Education, Buéa
1	Canada	WHO	Nurse - instructor Victoria

n1) Other aid from I.L.O.

The Sub-Regional Office of the I.L.O. is at Yaounde. The director, Mr Sidibe, is responsible for the following countries: Congo, (Brazzaville) Ruanda, Burundi, Cameroon, Gabon, Congo (Kinshasa), Chad, and the Central African Republic.

I.L.O. operations and projects in Cameroon:

n1.1. Creation of a National Assistance Center for Small and Medium Enterprise at Douala

The activities of AFCA in this field have already been mentioned. Other organizations, such as UNIDO, are also giving aid to small and medium-sized enterprises. ILO wishes to crystallize these various types of aid and to act as a coordinating body.

Purpose of the I.L.O. Center:

Training and advanced training of middle-level management for small and medium enterprises is carried out. The staff involved are usually administrative and not industrial or technical.

Buildings are available.

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Financing: United Nations Special Fund.

Mr Sidibe wishes to include other organizations in these activities.

n1.2 Accelerated Training Centers for Office Personnel, Yaounde and Douala

This has already been mentioned among the accelerated training projects operated by the Ministry of Labor.

n1.3 Advanced Training Center for Administrative Staff of the Labor Ministry

Location: Yaoundé

Focus: regional (countries of the O.C.A.M. except Congo).

This center gives two types of courses:

— 2-week refresher course for Labor Inspectors

— 6-month training course for Labor Inspectors. Those who have completed the course may continue their studies at the I.I.A.T. (International Institute for Labor Administrators) in Paris.

n1.4 Creation of a Federal Center for the Development of Cooperative Enterprises

Financing: Federal Republic of Cameroon
Special Funds and
I.L.O. (which will be responsible for carrying out the project).

The operating plan for this major project (comprising 10 experts plus consultants) has already been approved.

Director: Ben Yakov, (Israel)

Purpose: Encouragement of cooperative development in the villages.

n2 The main aid provided by UNESCO is now at the Institute of Applied Rural Pedagogy established in temporary buildings at Yaoundé. Permanent buildings are to be constructed, possibly with the help of IBRD, at Ngoumou, 40 km (25 miles) from Yaoundé. The purpose of this institution is to train educators for the rural communities, to give refresher courses to teachers, to train management staff for the normal courses, to devise a form of teaching better adapted to rural life, to prepare new programs and produce proofs of new textbooks. This is part of the Cameroon project for developing a system of primary education better adapted to the community, and for linking this system more effectively with other forms of education, such as apprenticeship in agriculture and encouragement of rural activities.

n3 The International Center of Statistical Training.

n4 The Panafrican Institute for Development (PID)

PID is a private, international, non-profit association, incorporated in Switzerland. Its headquarters are in Geneva.

Its first completed project is a school for management personnel, called the Panafrican Institute for Development, which began giving courses on March 29, 1965, in Douala, and which accepts French-speaking students from all the African countries.

The PID in Douala is attempting essentially to respond to the needs expressed by the governments and organizations of Africa, by training the necessary management personnel, thereby contributing to the planning and implementation of development.

In 2 years, the PID trains :

a) managers for rural development
b) regional managers for rural activities and adult education
c) regional managers for cooperative enterprises.

Applying an active pedagogical method, the PID has a full range of teaching aids which are used by both students and teachers.

Recruitment :

The level of recruitment is that of the 1st baccalauréat. Each candidate must be sponsored by one of the following bodies :

— the relevant ministries of his government,
— the private organizations directly concerned with development,
— the chambers of agriculture and commerce,
— the development organizations.

These bodies agree, in writing, to employ or to reemploy the candidates sponsored for PID training. No student is admitted unless he has the necessary guarantees of employment on completion of his studies.

The principal subjects taught are : economics, demography, psychology and sociology, organization and work methods, pedagogy, accounting, statistics and management, agriculture, rural engineering and ecology, health and nutrition, special economic theory, etc.

Qualification obtained : diploma of the PID, which entitles the holder to call himself «Cadre Technique du Developpement» in one of the following fields :

regional development, ecouragement of rural activities, adult education, organization, promotion and management of cooperatives.

The Institute is regional, as may be seen from the chart below, showing the number of graduates on August 31, 1968.

The first part of this survey deals with the "inventory of resources derived from the existing or planned education and training institutions". To accomplish this, a hypothetical educational structure was utilized.

Comparisons were made by the ORT team between the 5-year forecasts in the survey and the actual situation or shorter-term forecasts (1 to 2 years). In the public sector, the indications are very reliable. This encouraged the ORT members to use the SEDES survey as a sound basis for current work.

ENROLLMENT TREND

Country	1st graduating class	2nd graduating class	3rd graduating class	Total
Cameroon	18	9	7	34
Chad	1	5	7	13
Niger	3	2	6	11
Togo	3	6	2	11
C.A.R.	4	3	2	9
Upper Volta	–	2	5	7
Congo (Kinshasa)	1	2	1	4
Dahomey	1	1	2	4
Ivory Coast	–	–	2	2
Mali	–	1	–	1
Ruanda	–	1	–	1
Senegal	–	–	1	1

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II.

EMPLOYMENT SITUATION AND TRAINING NEEDS

The difficulties encountered in the domain of statistics and projections in this area are the same for the four countries. Cameroon appearing to be the most advanced. These countries do not have a well-developed statistical system, which is in itself an indication of a high degree of development. Where any such statistics are available, they deal mainly with commerce, international trade and national accounts.

The forecasts and evaluations in this report are based on :

1) consulting forecasts relating to human resources and investments ;

2) using partial and complete studies already made in this field ;

3) contacting the representatives of private enterprise.

Very often, the studies mentioned under 2) above, were used as a basis for drawing up the national development plan.

A. EMPLOYMENT SITUATION

In 1966, the entire wage-earning sector of Cameroon had less than 140,000 wage-earners. (Source : "Analyse du sous-developpement en Afrique Noire : l'exemple de l'économie du Cameroun", by Philippe Hugon, PUF 1968).

East Cameroon			West Cameroon			Total		
Sector :								
Public	Private	Total	Public	Private	Total	Public	Private	Total
46,000	59,000	105,000	11,000	22,750	33,750	57,000	81,750	138,750

From 1966 to 1970, the jobs created may be estimated at fewer than 50,000 divided approximately, 5,000 in the public sector, 16,000 in industry, 10,000 in commerce and 10,000 in other services.

The foregoing figures, while probably imprecise, were those for 1967 (established in August 1968, obtained from the Ministry of Labor and Social Legislation (see Annex V).

Taken overall, the figures indicate that the total number of wage-earners (permanent and seasonal workers) is about 117,000. Two points must be made here :

1) the figures for the public sector do not include government employees ;

2) the figures for the private sector are under-estimated, as the declarations were not submitted in time.

Data are available for the number of employees paid by the state as of July 1, 1968 (see forecast table, Annex VI).

Even making the necessary corrections for the public sector and extrapolating for the private sector in 1968, the result is not the total of 189,000 wage-earners as indicated for the end of 1968.

B. PERSONNEL NEEDS

For Cameroon, the survey entitled «Les problèmes d'emploi et de formation» ("Problems of employment and training"), published by the Society for Surveys on Economic and Social Development (SEDES, Paris), was used as a basis for the Five-Year Plan for 1965/66 - 1970/71.

Only workers of a skilled or highly skilled level were coveral. The needs and resources of the modern sector of the economy were dealt with, the requirements in supervisory personnel in the traditional sector (farmers, stock-raisers, small craftsmen and businessmen, urban and rural), being considered as part of the needs of the modern sector.

Criteria for classifying resources and needs :

— ordinary and specialized manual workers,

— skilled and highly skilled workers.

These workers hold jobs which require a general knowledge of the trade and, occasionally, detailed technical and practical knowledge. They must be able to organize their work on the basis of simple instructions. Initial training: CAP, supplemented by considerable experience.

— Foremen and supervisors :

responsible for allocating and checking the work. They coordinate the efforts of a group of workers.

— Technicians :

They assist management staff in their technical work, but have no responsibilities connected with directing the enterprise. Reference diploma : technician or advanced technician.

— Management or Senior Management :

They take part in directing the enterprise and need to display a great deal of initiative. Reference diploma : higher educational institutions or universities.

The first part of this survey deals with the "inventory of resources derived from the existing or planned education and training institutions". To accomplish this, a hypothetical educational structure was utilized.

Comparisons were made by the ORT team between the 5-year forecasts in the survey and the actual situation or shorter-term forecasts (1 to 2 years). In the public sector, the indications are very reliable. This encouraged the ORT members to use the SEDES survey as a sound basis for current work.

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Theoretical needs in "Technicians" for the period 65/66 – 70/71

Public and Private

	Sectors		East Cameroon	West Cameroon
1.	Commercial training		564	89
2.	Industrial training		463	
	dont :			
–	Forestry and timber industry	33		13
–	Engineering and shipbuilding	120		49
–	Construction and Public works	128		12
–	Electricity	66		5
–	Transportation machines	32		15
–	Mines and quarries	22		1
–	Miscellaneous	62		40
3.	Medical Training		369	182
4.	Agricultural Training		195	379
5.	Pedagogic Training		1263	334
	dont :			
–	Teachers	108		
–	Teachers of general education	731		
–	Technical instructors and assistants	265		
–	Physical Education Teachers	125		
–	Private school teachers	34		
6.	Administrative and Financial Training		424	42
7.	Other types of training		51	

From "Problems of Employment and Training", SEDES

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C. Contacts with employers

During their visit, the members of the survey team were able to meet :

1. Mr Tedjong, Secretary General of the Cameroon Chamber of Commerce, Industry and Mining, in Douala.
2. Mr Paul Soppo Priso, public works contractor and President of the Association of Public Works Contractors.
3. Mr J. Leaute, President of the GICAM (an inter-professional group for the study and coordination of economic interests in Cameroon) and his successor, Mr A. Halie,
4. Mr Girma, Secretary General of the Cameroon Association of Export-Import Traders.

While the Chamber of Commerce was unable to supply figures on the economic requirements in middle-level management staff and technicians, it confirmed that its training activities were limited to advanced training courses for white-collar workers, but at a low level. The project for the Advanced College of Commerce, financed by the FED and located at Douala, seems to have been shelved, although the Governement had already made the land available.

By contrast, discussions with the other employers' representatives were very instructive and informative. To ensure the smooth development of the enterprises, it is necessary for the middle-level management staff to be Cameroon nationals — technicians and advanced technicians. The deficiencies in this sphere are obvious (see chart of the GICAM).

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ESTIMATE OF REQUIREMENTS (NEW JOBS) IN PRIVATE ENTERPRISE IN EASTERN CAMEROON FOR QUALIFIED PERSONNEL AT ALL LEVELS

Years 1969-70-71

Sector	Supervisors	Foremen Technicians	Employees and/or skilled and highly skilled workers
1. Manufacturing	20	160	600
2. Public works, construction and associated industries *	?	50 ?	300 ?
3. Commerce	20	150	300
4. Banking	5	50	60
5. Provision of services (transit lighterage, insurance, hotels, shipping companies)	10	50	50
6. Transportation (including railroad)	15	35	100

* *The present situation in this branch of activity makes the prospect of new jobs unlikely.*

Source : Survey made at the end of January 1969 by GICAM (an inter-professional group for the study and coordination of economic interests in Cameroon).

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This estimate of needs is based on the present industrial and commercial situation assuming no new investments, no expansion, no new enterprise.

IMPLEMENTATION OF THE FIVE-YEAR PLAN

(July 1966 - June 1971)

PERSONS EMPLOYED IN VARIOUS SECTORS AT THE END OF JUNE 1968

Millions of CFA francs	Forecasts in Plan (1966-67)	Actual Investment (1st and 2nd year)	Percentage of Plan	Planned Invest (last 3 years)	TOTAL	% of Plan
Animal husbandry	750	50	7	725	775	103
Fishing industry	1 575	250	15	1 350	1 600	101
Mining	2 062	2 120	100	2 760	3 830	185
– Replacements	25					
Power	6 280	2 075	33	6 140	8 215	130
TOTAL	10 667	4 495	30	10 975	14 420	130
Agriculture	5,056	2 653	52	1 675	4 328	85
– Replacements	1 480	590		330	920	
Manufacturing industries	20 106	6 045	30	12 138	18 183	90
– Replacements	6 310	1 350		2 500	3 850	
TOTAL	25 162	8 698	35	13 813	22 511	89
– Replacements	7 790	1 940		2 830	4 770	
GRAND TOTAL	35 829	13 193	36	24 788	36 931	102

Source : African Industry in 1969 (Special issue of the Bulletin de l'Afrique Noire)

This indicates that 3 sectors will undergo marked expansion :

— the fishing industry,

— the power industry,

— manufacturing industries.

III.

CONCLUSIONS AND RECOMMENDATIONS

The list of educational projects submitted to the IBRD for financing was communicated to the ORT team verbally. The general pattern observed in this list denotes a widespread and erroneous trend in the conception of education in Cameroon.

The team recommends that the following measures be included in the third Five-Year Plan:

— a slowing down in the growth of the CEGs (Centers of General Education). There are far too many students in the 6th grade, many more in October 1968 than the 2nd Plan had envisaged for October 1971.

— an increase in the number of technical schools, with more and better equipment and, in particular, a higher standard of teaching.

In the list of educational projects submitted to the IBRD, 15 were concerned with general education and only 4 with technical education. These four projects were:

a. Expansion of the Technical Lycée at Douala, with modernization of equipment and installation of laboratories.

b. Expansion of the CET at Edea (metal working section)

c. Expansion of the CET at Ebolowa (auto mechanics and electrical installer sections)

d. Expansion of the College of Arts and Technology of West Cameroon.

Of a total sum of 3 billion CFA francs requested from the IBRD to finance educational projects, only 400 million are programmed for technical education and vocational training.

The following observations and recommendations are submitted for consideration:

1. Implementation of the project for a Higher Federal School of Technology or Federal Polytechnic Institute.

Paragraphs IIB and IIC have demonstrated the need for foremen and technicians in industry. The first part of the survey, the "List of Training Facilities", also demonstrates that the training capacity of all the existing institutions for personnel of this level could never produce the figure needed. The Cameroon Government and FAC made this discovery long before the ORT team, following a survey mission on the training of technicians and engineers carried out four years ago. The plan for creating a higher Federal School of Technology is being studied by the Government authorities and by the permanent mission for French Aid and Cooperation at Yaoundé. What does seem quickly possible is training of technicians with a beginning enrollment of 45 students. Recruitment would be at the BEPC level and the course would last 4 years. First-year students of the technical lycées could be admitted in the third-year.

This school is meant mainly for supplying the needs of the public sector. The private sector will be supplied by students graduating from the technical lycées and who would then have one year of on-the-job training.

The ORT team recommends further study of the following points:

— A detailed analysis of requirements in technicians for the period 1970-1975 (quantities and trades).

— Available numbers of suitable candidates at different levels — BEPC, second and first of technical lycée.

— The study for this project should be entrusted to an organization with considerable experience in this field.

The ORT team notes that the Cameroon authorities responsible for this project would like to obtain greater benefit from this school. The buildings and the equipment in the workshops, laboratories and classrooms (which are bound to be costly if the education given is to be worthwhile) would be used to add to the school the two following elements:

— a training center for Technical Teachers (both theory and shop)

— a center for the development of training aids and methodology technical education.

In the chart "Distribution of teaching staff" (Annex A/1), the danger of the present situation is clearly shown. It was found that in the CETs, Africanization of the teaching staff was almost complete, but that the same was not true for the Technical Lycées. But the Cameroon teachers, even when they possess the required qualifications in the subject, and this is not often the case, have not had pedagogic training. It is not surprising, therefore, that there are poor results in the various examinations in technical education (Annex B/1), or of the dangerously high number of dropouts from technical courses (Annexes C/1 and C/2).

2. UNESCO project for training teachers

This project has already been mentioned in paragraph E2 (n2), and the ORT team discussed it with Mr Matič, the UNESCO representative in Cameroon. The innovation in this project is the conception of a form of teaching better adapted to rural life (craftsmanship and agriculture), in short, what ORT calls Educative Manual Work (TME). It is probable that the collaboration of ORT in such a project would improve the effectiveness of this kind of "normal school". The conditions would have to be agreed upon. In fact, there is a need for a "Center for the Design and Manufacture of Didactic Material", similar to the one created by ORT, in Mali in 1962, and now in operation at the ORT Central Institute at Anières, near Geneva.

3. Tourism and the hotel industry

The ORT team held discussions with Mr Paul Fokam Kamga, Minister of Information and Tourism, and also President of the Organization for the De-

velopment of African Tourism (ODETA), whose headquarters are in Yaoundé. The importance of tourism for Cameroon is evident. However, very little effort has been devoted to the development of reception of visitors and tourists. The increase in overseas tourists is being matched by a similar increase in domestic tourism.

The tourist industry requires qualified personnel for transportation (travel agents, shipping agents, lighterage, reception hostesses), and for visitors and tourists, accomodations, i.e., the hotel industry (kitchen, restaurant, reception). The interview with Mr KAMGA resulted in agreement that, with so much to be done, an exploratory survey should be made in this field at least to define the requirements.

4. **Fishing and waterborne traffic**

Between 1966 and 1970, the fishing industry will receive 1574 million CFA francs out of a total of 1976 million, set aside for fishing in the Five-Year Plan. The investments made through the end of 1968 represented an amount of 500 million CFA francs. Almost one billion CFA francs of additional investments have been planned up to 1971, which should enable the Plan's objectives to be attained.

Production in the maritime fishing industry in East Cameroon has grown from an average of 3,000 tons between 1956 and 1961 to an average of 8,000 tons in 1963, 1964 and 1965, and an average of 11,000 tons in 1966 and 1967.

There are at present 6 fishing firms in Cameroon.

The industrial fishing fleet, which had 23 vessels at the beginning of 1969, includes the 4 modern trawlers of SOPECOBA Cameroon, the latest of which was bought in 1966; 6 vessels belonging to the Cotonnec line; 6 PECAM vessels, one of which is a steel-hulled trawler; 3 boats of the African Industrial Fishing Company (SAPI); 2 trawler-refrigeration vessels put into service by SIPEC and 2 shrimping/refrigeration boats of the Cameroon Shrimp Company.

Installation of equipment envisaged under the Plan, comprising the establishment of an industrial fishing company (1200 million CFA francs for 3 trawler/refrigerator ships, 5 shrimping trawlers and 3 deep-sea vessels) and the creation of a deep-freezing installation (384 million CFA francs), has been under way since 1968.

A development of this kind requires that highly skilled workers and technicians will be needed i.e., refrigeration technicians, diesel mechanics, radio-operators and navigators, maintenance mechanics, boilermaker and ship repair specialists.

5. While there are a few "school-factories" (as mentioned in Paragraph D, "Private Enterprise"), the system of apprenticeship linked with the Chambers of Trades does not exist.

The I.L.O. should focus on this situation and draw up a model apprenticeship contract between the employer and the young person who wishes to learn a trade in industry. Supplementary courses could be organized by the Department of Technical Education to give the apprentice the knowledge that the company is unable to provide.

6. The trades taught in the C.E.T.s and technical lycées are not sufficiently numerous. To keep abreast of the labor market, the trades must be diversified. ORT is convinced :

   — that an electronics section in the technical lycées would correspond with real needs,

   — that an automation school, or at the very least an automation section, would have proved extremely useful to the brewery at Douala, to the Chococam Company, etc.

   Since computers exist, and are used increasingly in Cameroon, the creation of a training program in this field would be desirable.

7. ORT would recommend the creation of an organization to coordinate vocational training (similar to the ONFP in the Ivory Coast).

   Training policy, once defined, will gain in effectiveness if the diverse facilities available, are closely coordinated. The creation of a training structure should not be undertaken on a haphazard basis. This organization would ensure that investments in vocational training phased over a period of time would be harmonized. This office would supervise all vocational training institutions, apart from those classified as technical education proper, and would oversee the development and creation of such institutions.

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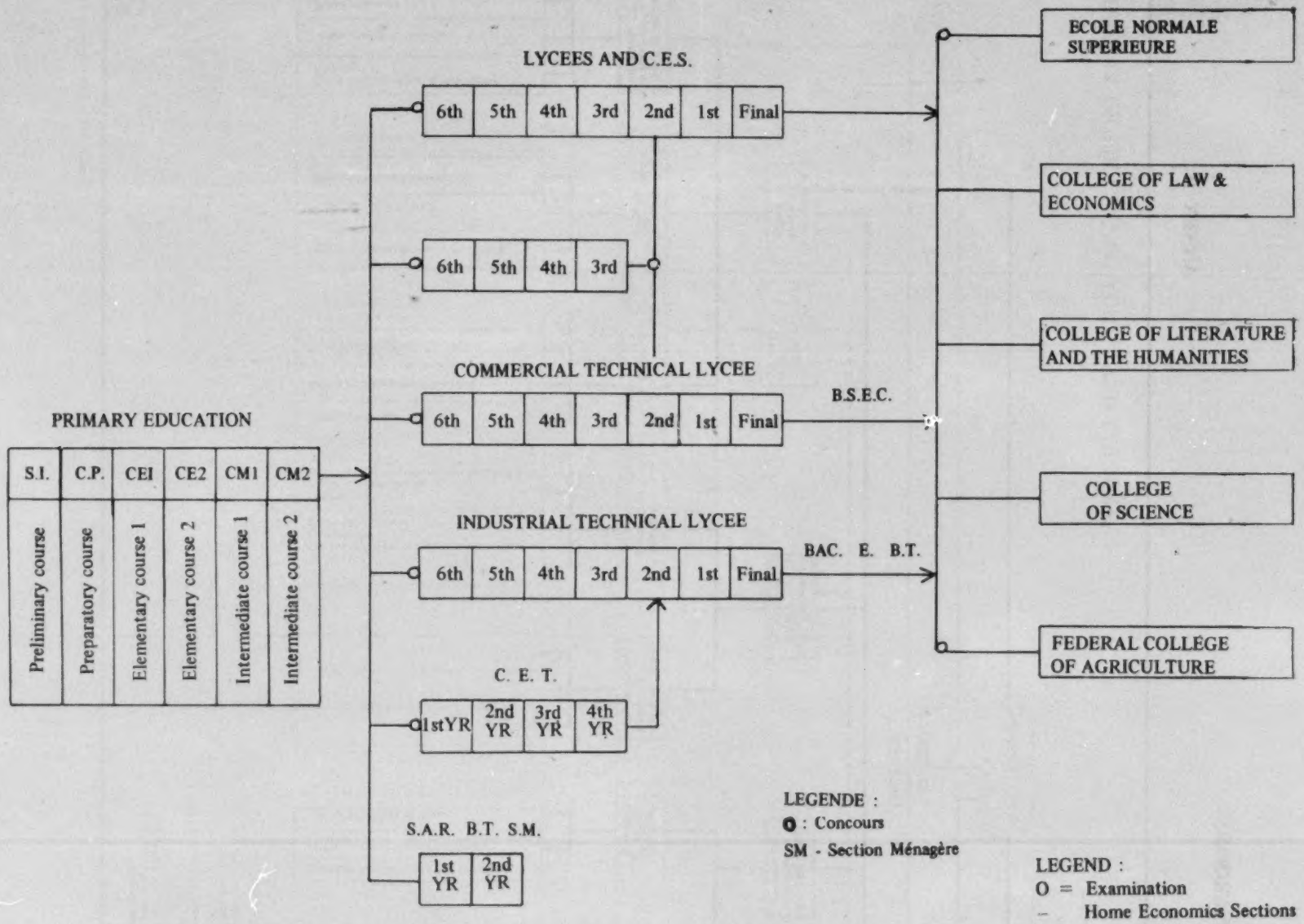
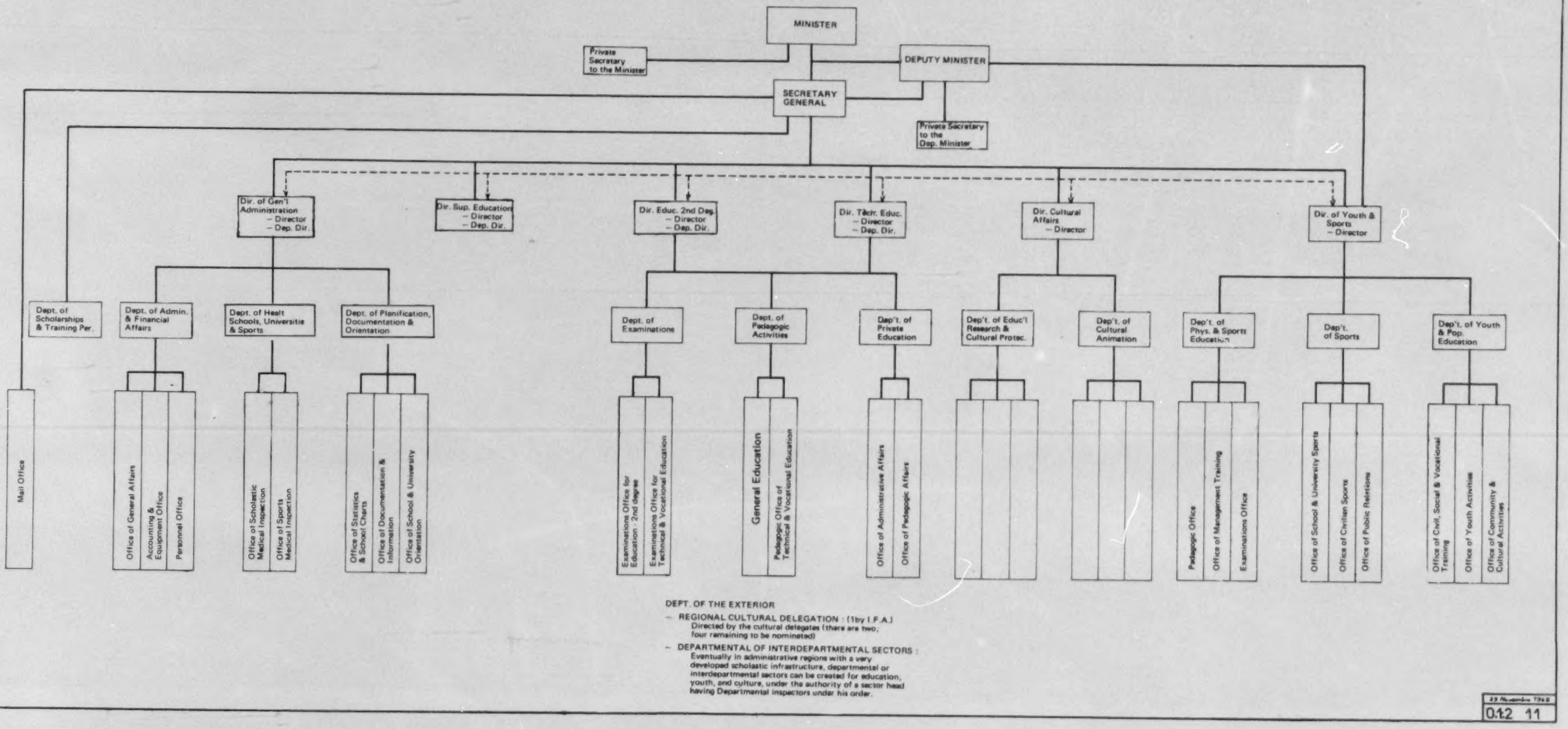
ANNEX I : PRESENT STRUCTURE OF EDUCATION IN EAST CAMEROON



Source : Statistical Yearbook 1967/68

ANNEX II

MINISTRY OF EDUCATION, YOUTH AND CULTURE

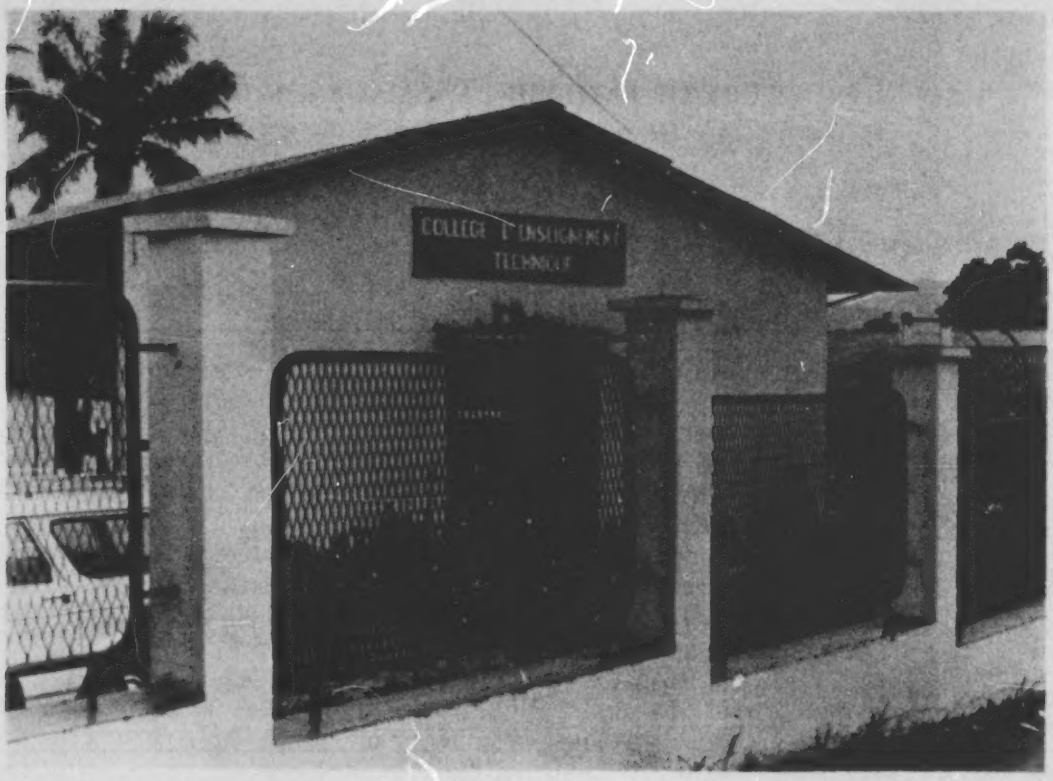

MINISTER
Private Secretary to the Minister
DEPUTY MINISTER
SECRETARY GENERAL
Private Secretary to the Dep. Minister
Dir. of Gen'l Administration – Director – Dep. Dir.
Dir. Sup. Education – Director – Dep. Dir.
Dir. Educ. 2nd Deg. – Director – Dep. Dir.
Dir. Tech. Educ. – Director – Dep. Dir.
Dir. Cultural Affairs – Director
Dir. of Youth & Sports – Director
Dept. of Scholarships & Training Per.
Dept. of Admin. & Financial Affairs
Dept. of Healt Schools, Universitis & Sports
Dept. of Planification, Documentation & Orientation
Dept. of Examinations
Dept. of Pedagogic Activities
Dep't. of Private Education
Dep't. of Educ'l Research & Cultural Protec.
Dep't. of Cultural Animation
Dep't. of Phys. & Sports Education
Dep't. of Sports
Dep't. of Youth & Pop. Education
Mail Office
Office of General Affairs
Accounting & Equipment Office
Personnel Office
Office of Scholastic Medical Inspection
Office of Sports Medical Inspection
Office of Statistics & School Charts
Office of Documentation & Information
Office of School & University Orientation
Examinations Office for Education : 2nd degree
Examinations Office for Technical & Vocational Education
General Education
Pedagogic Office of Technical & Vocational Education
Office of Administrative Affairs
Office of Pedagogic Affairs
Pedagogic Office
Office of Management Training
Examinations Office
Office of School & University Sports
Office of Civilian Sports
Office of Public Relations
Office of Civil, Social & Vocational Training
Office of Youth Activities
Office of Community & Cultural Activities

DEPT. OF THE EXTERIOR

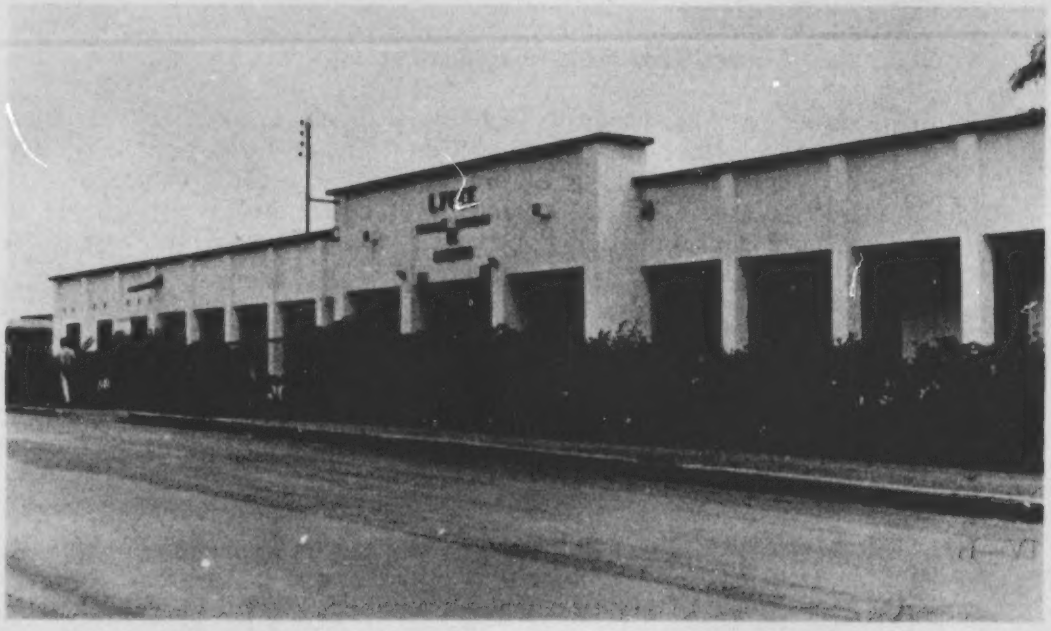
- REGIONAL CULTURAL DELEGATION : (1by I.F.A.)
  Directed by the cultural delegates (there are two; four remaining to be nominated)
- DEPARTMENTAL OF INTERDEPARTMENTAL SECTORS :
  Eventually in administrative regions with a very developed scholastic infrastructure, departmental or interdepartmental sectors can be created for education, youth, and culture, under the authority of a sector head having Departmental inspectors under his order.

012 11

Source : Ministry of Education, Youth and Culture.



The Technical College - Yaoundé



The Commercial Lycée Technique - Yaoundé

ANNEX III

STRUCTURE OF ENGLISH-LANGUAGE EDUCATION IN WEST CAMEROON

I—PRIMARY EDUCATION (7 years)

A) Grades I, II and III : Juniors,

B) Grade IV : transitional, after which pupils take an examination, "Entry to Senior Primary Schools",

C) Grades V, VI and VII : Seniors. At the end of Grade VII pupils take the "First School Leaving Certificate", equivalent to the CEP diploma, and some also take the "Common Entrance Examination", which is competitive and enables those who pass it to continue their studies. The first 1000 successful examinees are admitted to the special entrance examination, accompanied by a monetary grant, for the bilingual lycée at Buéa and the bilingual college at Yaoundé (70 entrants).

D) For pupils who do not continue their studies, the creation of craft schools is envisaged, first on an experimental, then on a general basis, giving a two-year practical instruction in agricultural, industrial or home-making subjects.

II—SECONDARY EDUCATION

A) Secondary Schools : (5 years) : grades I to V ; at the end of Grade V, pupils take the "General Certificate of Education, Ordinary Level".

B) Colleges of Arts, Sciences and Technology : first year and final year, after which students take the "General Certificate of Education, Advanced Level". The instruction is of pre-university standard (choice of only 3 subjects). The "General Certificate of Education" is British, which is the source of examination papers and where the students' papers are corrected.

III—TECHNICAL EDUCATION

This is given in the Technical and Commercial College, where the courses of study last for 4 or 5 years, terminating in an examination.

IV—HIGHER EDUCATION

A 2-year course of higher education has been started at the CAST in Bambili, by establishing a section attached to the "Ecole Normale Supérieure" at Yaoundé and an agricultural section.

V—TEACHER TRAINING METHODS

A) Old system :

Probationary teachers are recruited directly from those obtaining the First School Leaving Certificate. After 4 or 5 years' teaching, they become "confirmed teachers", and are then able to enter the elementary teachers' training schools (ETTS) (3-year course of studies). Those who fail the final examination of the ETTS return to teaching, but without the title of "Grade III", which is awarded to those who pass the examination and who, after a further 2 years of teaching, are eligible for entry to the high elementary teachers' schools (2-year course of studies). Success in the final examination here gives the students the title of "Grade II". Grade I qualification, which is equivalent to the General Certificate of Education, advanced level, is achieved with a one-year course.

B) New system :

This is gradually being put into effect, and represents an attempt to bring the previous system more in line with the French system. In future, the "Grade III" centers will recruit their students at the end of primary education and will train teachers in 4 years (recruiting has already begun), while the "G II" centers will recruit from those leaving the third grade of secondary or technical schooling, and will provide training in 2 years. In addition, it is intended to create a pedagogic section at the CAST at Bambili, where classes of 50 students holding the GCE, "O" level, will prepare Grade I for 2 years. The teachers will be employed in the above-mentioned centers and in the first three grades of secondary and technical education.

ACTIVE POPULATION

ANNEX IV

YEAR : 1967

DATA AVAILABLE IN AUGUST 1968

GROUPS OF ACTIVITIES	EMPLOYERS				EMPLOYEES (9)			
	Corporations		Individuals		Permanent		Seasonal	
					M	F	M	F
I. PUBLIC SECTOR								
– General Administration	99				7.387	480	753	7
– Industrial or commercial type of service	11				992	49	82	25
– Other Public bodies	51				3.276	317	197	1
– PUBLIC SECTOR TOTAL	511				25.705	2.036	1.221	33
II. PRIVATE SECTOR	A	NA	A	NA	M	F	M	F
A. PRIMARY ACTIVITIES								
- Fishing	-	3	-	-	277	5	56	-
- Forestry	1	22	-	5	5.116	85	104	-
- Agriculture, livestock	3	52	5	27	11.492	445	6.161	2.728
TOTAL	4	77	5	32	16.885	535	6.321	2.728

Chart 1

ANNEX IV (Cont. 1)

GROUPS OF ACTIVITIES	EMPLOYERS				EMPLOYEES			
	Corporation		Individuals		Permanent		Seasonal	
B. SECONDARY ACTIVITIES	A	NA	A	NA	M	F	M	F
- Electricity	1	19	–	–	2.077	51	94	–
- Petroleum & fuels	4	13	3	6	589	21	134	–
- Extraction of metallic ores	–	1	–	–	120	2	50	–
- " building materials	–	2	1	1	87	1	57	–
- " & processing of ores	–	–	–	–	–	–	–	–
- Manufacturing industries	3	97	11	39	10.837	653	557	37
Construction & Public Works	–	102	1	16	14.814	91	1.090	13
TOTAL	8	202	16	62	28.524	819	1.982	50
C. TERTIARY ACTIVITIES								
- Commerce	25	342	63	140	8.823	639	5.704	29
- Transportation, roads	1	34	1	11	3.274	12	165	–
- " rail	–	1	–	–	3.102	12	92	–
- " sea & rivers	–	9	–	1	9.756	15	1.960	–
- " air	–	9	–	–	769	46	20	1
- auxiliary	–	14	–	–	3.446	22	–	–
- Banking & insurance	1	40	2	1	1.055	206	16	9
- Litigation	–	1	3	4	35	5	–	–
- Liberal professions	–	36	11	5	1.527	119	32	–
- Private education	10	37	10	1	4.583	364	4	–
- Hotels - Restaurants - Bars	4	34	16	13	1.214	42	27	3
- Domestic staff	2	18	1	3.425	6.789	16	4	4
- Miscellaneous	5	21	11	4	792	20	1	–
TOTAL	48	596	118	3.615	36.487	1.934	8 025	46
PRIVATE SECTOR TOTAL	60	875	139	3.709	81.896	3.288	16.328	2.824
OVERALL TOTAL	221	875	139	3.709	93.551	4.134	17.360	2.857
					97.635		20.217	

Chart 1B

NUMBERS IN PERMANENT EMPLOYMENT

ANNEX - IV (Cont. 2)

BREAKDOWN BY SECTOR
JOB CATEGORY AND ACTIVITY GROUP (1)

	NATIONALS										NON-NATIONALS										TOTALS		OVERALL TOTAL
	UNSKILLED		SKILLED		WHITE COLLAR		SUPERVISORS FOREMEN		MANAGEMENT		UNSKIL.		SKILLED		W-C		SUPER. FOREMEN		MANAGEMENT				
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M + F
I. PUBLIC SECTOR *																							
- General Administration	2.268	3	2.227	72	2.353	341	248	18	68	9	8	–	12	–	150	36	50	1	3	–	7387	480	7.867
- Industrial or commercial type of service	388	–	278	–	263	42	[illegible]	–	36	2	–	–	1	–	2	5	–	–	3	–	992	49	1.041
- Other public bodies	1.079	4	666	36	1.431	259	44	3	22	7	3	–	1	–	6	2	13	3	11	3	3276	317	3.593
PUBLIC SECTOR TOTAL *	3.735	7	3.171	108	4.047	642	313	21	126	18	11	–	14	–	158	43	63	4	17	3	11655	846	12.501
I. PRIVATE SECTOR PRIMARY ACTIVITIES																							
- Fishing	39	–	168	–	23	–	–	–	–	–	2	–	16	–	1	5	24	–	4	–	277	5	282
- Forestry	2.870	72	1.752	–	210	2	141	–	3	–	14	–	26	–	3	8	6	–	91	3	5116	85	5.201
- Agriculture, livestock	8.802	421	1.416	3	478	6	371	4	41	–	183	–	12	–	7	–	9	9	173	2	11492	445	11.937
TOTAL	11.711	493	3.336	3	711	8	512	4	44	–	199	–	54	–	11	13	39	9	268	5	16885	535	17.420

(1) Including workers' assistants and drivers.
Chart 2. Not including 400 taxi and bus owners employing about 500 workers in the Coastal Inspectorate.

GROUPS OF ACTIVITIES	NATIONALS										NON – NATIONALS										TOTALS		OVER ALL TOTAL
	UNSKILLED WORKERS		SKILLED WORKERS		WHITE-COLLAR WORKERS		SUPER VISORS &. FOREMEN		MANAGEM. STAFF		UNSKIL. WORKERS		SKILLED WORKERS		WHITE COLLAR WORKERS		SUPER VISORS FOREMEN		MANAGEM. STAFF				
B. SECONDARY ACTIVITIES	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Electricity	276	–	1.001	–	449	10	224	4	5	–	–	–	15	–	1	7	63	27	43	3	2.077	51	2.128
Petroleum & fuels	167	–	126	1	132	5	50	–	19	–	5	–	20	1	6	4	9	7	55	3	589	21	610
Extraction of metallic ores	65	–	37	–	8	–	8	–	–	–	–	–	–	–	–	2	–	–	2	–	120	2	122
of building materials	50	–	31	–	4	–	–	1	–	–	1	–	–	–	–	–	–	–	1	–	87	1	88
" & processing of ores	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Manufacturing industries	3.980	185	5.257	235	753	93	182	4	35	–	6	–	153	–	28	48	158	43	285	45	10.837	653	11.490
Construction & public works	7.002	1	5.648	2	1.043	12	135	2	7	–	352	–	173	7	6	33	283	4	166	29	14.815	90	14.905
TOTAL	11.540	186	12.100	238	2.389	120	599	11	66	–	364	–	361	8	41	94	513	81	552	80	28.525	818	29.343
C. TERTIARY ACTIVITIES																							
- Commerce	2.308	10	2.397	51	2.977	190	240	5	52	2	32	–	52	5	81	178	176	139	508	59	8.823	639	9.462
- Transportation, roads	545	–	2.144	–	494	–	28	1	19	–	5	–	8	–	14	11	3	–	14	–	3.274	12	3.286
- " rail	392	–	1.546	–	942	10	131	–	13	–	–	–	15	–	28	2	–	–	35	–	3.102	12	3.114
- " sea & rivers	629	–	161	–	112	5	18	1	2	–	10	–	5	–	8	9	18	–	15	–	978	15	993
- " air	204	–	216	–	198	14	20	–	4	–	–	–	20	–	60	29	–	1	47	2	769	46	815
- " auxiliary	2.645	–	159	–	455	2	39	–	2	–	–	–	6	–	88	11	4	–	48	9	3.446	22	3.468
- Banking & insurance	79	1	79	–	670	108	81	6	74	–	1	–	1	–	57	83	–	2	113	6	1.155	206	1.361
- Law	4	–	4	–	22	2	1	–	–	–	–	–	–	–	–	1	–	1	4	1	35	5	40
- Liberal professions	131	–	90	2	1.223	89	55	6	4	5	–	–	–	–	1	9	1	1	22	7	1.527	119	1.646
- Private education	95	26	87	29	4.091	638	121	8	150	6	1	–	–	–	13	45	6	1	19	9	4.583	762	5.345
- Hotels - restaurants - bars	167	–	371	6	578	18	38	1	15	–	1	–	2	–	17	26	1	1	24	12	1.214	64	1.278
- Domestic staff	94	–	90	–	6.605	–	–	–	–	–	–	–	–	–	–	12	–	–	–	–	6.789	12	6.801
- Miscellaneous	273	1	361	1	96	7	38	–	4	1	2	–	–	–	1	4	2	6	15	–	792	20	812
TOTAL	7.566	38	7.705	89	18.463	1.083	810	28	339	14	52	–	109	5	368	420	211	152	864	105	36.487	1.934	38.421
PRIVATE SECTOR, TOTAL	30.817	717	23.141	330	21.563	1.211	1921	43	449	14	615	–	524	13	420	527	763	242	1.684	190	81.897	3.287	85.184
OVERALL TOTAL	34.552	724	26.312	438	25.610	1.853	2234	64	575	32	626	–	538	13	578	570	826	246	1.701	193	93.552	4.133	97.685

Source : Ministry of Labor and Social Legislation.

ESTIMATED TREND IN NUMBERS OF PERSONS ON THE GOVERNMENT PAYROLL

ANNEX V

(July 1, 1968 to July 1, 1974)

CLASSIFICATION NUMBERS	AT July1, 1968	ESTIMATED RECRUITMENT OF NEW EMPLOYEES IN							ESTIMATES OF DECREASING GOVERNMENT PAYROLL AT						FORECAST ON						
		68-69	69-70	70-71	71-72	72-73	73-74	TOTAL	68-69	69-70	70-71	71-72	72-73	73-74	TOTAL	1.7.69	1.7.70	1.7.71	1.7.72	1.7.73	1.7.74
MANAGEMENT																					
A2	372	121	180	90	103	97	90	591	1	2	1	6	–	6	16	492	670	759	856	953	1 037
A1	1 130	294	246	187	228	213	217	1 385	41	28	17	22	18	26	152	1 383	1 601	1 771	1 977	2 172	2 363
B2	627	200	259	236	221	234	243	1 393	126	14	15	15	17	24	211	701	946	1 167	1 373	1 590	1 809
B1	1 757	259	485	400	398	404	379	2 341	125	78	81	90	74	80	528	1 891	2 298	2 617	2 925	3 255	3 554
C	3 509	392	720	605	650	590	617	3 574	58	85	72	73	77	94	459	3 843	4 478	5 011	5 588	6 101	6 624
D	8 575	601	1 058	1 056	976	971	918	5 576	71	115	117	118	171	172	764	9 105	10 048	10 987	11 845	12 645	13 387
EMPLOYEES UNDER CONTRACT	217	46	53	54	55	57	58	323	14	1	1	1	3	3	23	249	301	354	408	462	517
Unclassified	88	17	25	18	19	20	26	125	4	28	5	4	6	8	55	101	98	111	126	140	158
Univ. degree	510	32	84	52	55	57	61	341	2	38	13	8	16	22	99	540	586	625	672	713	752
BAC.	571	62	135	120	116	120	122	675	7	47	19	18	23	35	149	626	714	815	913	1 010	1 097
BE. BEPC.																					
DAILY WORKERS																					
BE. BEPC-CAP	3 594	2 390	841	825	820	800	794	6 470	37	57	39	31	43	40	247	5 947	6 731	7 517	8 306	9 063	9 817
CEPE	12 275	303	526	443	454	478	459	2 663	84	123	143	135	140	133	759	12 494	12 897	13 197	13 515	13 853	14 179
Helpers	4 817	189	373	333	334	318	330	1 877	64	81	102	111	115	132	605	4 942	5 234	5 465	5 688	5 891	6 089
TOTAL	38 042	4 906	4 985	4 419	4 429	4359	4 314	27 412	634	697	625	633	703	775	4 067	42 314	46 602	50 396	54 192	57 848	61 387

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Source : Department of Human Resources of the Ministry of the Plan.

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ANNEX VI

PRIVATE EDUCATION IN CAMEROON

(Source : Cameroon Ministry of Education)

The importance of the public and private sectors are very different according to whether it is short-term or long-term education. The following are 1968 figures :

Education	Public	Private
Short-term	1,250	600
Long-term	1,550	290
of which 1st cycle	860	94

The different sects of private education are divided as follows.

Education	Catholic	Protestant	Non-denominational
Short-term	2,080	180	4,350
Long-term	—	30	260
of which 1st cycle	—	—	95
Total	2,080	210	4,610

The number of private educational establishments is contantly growing, especially in the field of technical commercial education.

Private education in Cameroon constitutes a special case as compared with the other Central African countries included in this survey, and therefore merits close study and detailed treatment.

1. **In East Cameroon,** the legislation on private education is contained in several laws, decrees and circulars : the laws of June 26, 1963 ; July 9, 1964 and August 29, 1968 ; the decrees of January 20, 1966 and August 23, 1968 are the principal legislation. The essential provisions of these laws, which were summarized in Note No. 329 of September 10, 1968, are as follows :

   — Organization of private education : statutes, types of education (Catholic, Protestant, non-denominational, Franco-Arab), conditions for opening an institution, and relations with the State. Each type of education is represented by a national delegate appointed by the appropriate church or organization and approved by the Government authorities.

   — Definition of the professional categories of teachers in private education and the salaries appertaining to them.

   — Procedure for the transfer of private institutions to the State (mainly those concerned with primary education), whether in the public interest or at the request of the founders.

   The Catholic educational system appears to be the best organized. The central administrative body possesses a planning board and a schools statistics service as well as a pedagogic office. At middle-level, there is a diocesan administration

board with a counsellor, and serious efforts are made to provide systematic upgrading courses for the teachers. Much remains to be done in this sphere, despite the aid from Switzerland and the support of CODIAM, as the Archbishop of Yaoundé has not been able to find financial backing for his projected upgrading courses for primary schoolteachers.

The Protestant education administration acts more as a coordinating body between those in charge of education in each church or mission and as a representative in dealings with the Government authorities. Most of the eight Protestant churches and missions in Cameroon have their own scholastic system. The two largest groups, which also have the best-organized schools are the Council of Baptist and Evangelical Churches of Cameroon (CEBEC) and the Cameroon Presbyterian Church (EPC). It should be noted that the institutions providing long-term technical training are operated by the Cameroon Federation of Evangelical Churches and Missions (Collège Evangélique de Libamba, Collège Alfred Saker in Douala, etc.) while the institutions giving short-term training belong to the individual churches or missions.

Administration of the non-denominational private education system seemed to be less well structured, even allowing for the absence of a general body with effective authority over the schools. In fact, the Director of Private Education is elected by the founders of the various schools, and has no adequate means of exercising effective control over the schools. However, the Ministry of Education, Youth and Culture is keen to consolidate the authority of the Director. The proliferation of schools of all kinds proceeds unhindered despite high fees and the lack of residential facilities. The fact is that the denominational schools whether public or private, are unable to deal with the bottleneck existing at the point of transition from primary to secondary education, and many parents are forced to turn to the non-denominational private institutions, and even these are unable to satisfy the demand, some of them tending increasingly to select their students. This bottleneck is of concern to European parents as well as those of Cameroon. A new non-denominational private school was opened recently in Yaoundé on the initiative of European parents (Collège Fustel de Coulanges), although some of them had already sent their children to the Montesquieu private school. While a fair number of schools are set up by "patrons" and obtain good results in the examinations (which leads the Government to grant them subsidies and encouragement bonuses), there are others which are far too commercial in nature, where the founders neglect the pedagogic organization and where the results are negligible in relation to the sacrifices of the parents. This situation is a cause of acute concern to the education authorities and has led them to give more attention to the supervisory services in private education, another reason being that some religious congregations open schools without being able to provide the qualified teaching staff required.

The Franco-Arab system of private education, set up mainly in the north with Government aid in response to the demands of Moslem parents, is not yet greatly developed, and poses no particular probelm for the moment.

2. **In West Cameroon,** each mission group nominates a Secretary of Education, who is accepted and paid by the Government. Teaching in the private schools is supervised by official inspectors. The Protestant educational system is the best organized.

INTERNATIONAL CENTER FOR TRAINING IN STATISTICS (CIFS)

The Center was created in Yaounde in 1962, under the auspices of the United Nations Economic Commission for Africa. Students are drawn from the French-speaking countries of Africa, and are trained as middle-level technicians in the statistics service.

The Center has two divisions:

1. The "technical assistants" division, which recruits holders of the probatoire (formerly 1st part of the baccalauréat), an equivalent diploma or a technical assistant's diploma. The training period lasts for two years.
2. The "technical agents" division, which recruits holders of a diploma of completed secondary studies, 1st cycle, or its equivalent, or employees of the statictics service capable of profiting from this level of training.

Admission is by examination only. The students accepted receive grants from the international organizations (UN Special Fund, EEC grants, etc.) or from the governments of their own countries. Attendance at the Center is conditional on the obtaining of a grant and on the guarantee of employment in the country of origin after training.

At the beginning of the school year in October 1969, the CIFS had 75 students, 31 of them in the "technical agents" division and 44 in the "technical assistants" division (24 in the 1st year and 20 in the 2nd year). The students come from Burundi, Cameroon, the Central African Republic, the Comoro Islands, Congo (Brazzaville) Congo(Kinshasa), Dahomey, Gabon, Haute Volta, Madagascar, Mali, Niger, Ruanda, Chad and Togo.

In addition to the Cameroon teaching staff (officials from the senior administration of the statistics service), there are members of various bodies concerned with bilateral aid: Belgian and French technical aid and Swiss volunteers.

ANNEX A

DISTRIBUTION OF TEACHING PERSONNEL OF TECHNICAL EDUCATION INSTITUTIONS

EAST CAMEROON

	PUBLIC				PRIVATE				TOTAL			
	National Tech. Ass.				National Tech. Ass.				National Tech. Ass.			
	of which		of which		of which		of which		of which		of which	
	T	F	T	F	T	F	T	F	T	F	T	F
Professors Ph. D. S.	–	(–)	1	(–)	1	(–)	–	(–)	1	(–)	1	(–)
Certified Professors CAPES-CAPET	3	(1)	8	(1)	–	(–)	1	(–)	3	(1)	9	(1)
Teachers (Diploma)	–	–	–	–	–	–	–	–	–	–	–	–
Licenced Teachers	5	(2)	12	(6)	2	(–)	3	(1)	7	(2)	15	(7)
Teachers C.E.S. – C.E.G.	6	(–)	19	(11)	2	(–)	1	(–)	8	(–)	20	(11)
Teaching Assistants Lycée Technique	1	(–)	22	(8)	–	(–)	1	(–)	1	(–)	23	(8)
Teaching Assistants C.E.T.	15	(3)	15	(2)	2	(–)	5	(5)	17	(3)	20	(7)
Engineers	2	(–)	8	(–)	–	(–)	2	(–)	2	(–)	10	(–)
Technical Teachers	26	(8)	6	(6)	–	(–)	–	(–)	26	(8)	6	(6)
Bac. BT. BP. BSEC	4	(–)	5	(1)	8	(1)	25	(8)	12	(1)	30	(9)
Probative – B.E.C. – B.E.I.	1	(–)	2	(–)	11	(1)	6	(5)	12	(1)	8	(5)
Assistant Technical Teachers	15	(3)	–	(–)	2	(–)	1	(1)	17	(3)	1	(1)
B.E. – B.E.P.C. – C.A.P.	21	(8)	–	(–)	136	(31)	24	(17)	157	(39)	24	(17)
Others	8	(5)	12	(1)	24	(3)	23	(11)	32	(8)	35	(12)
TOTAL	107	(30)	110	(36)	188	(36)	92	(48)	295	(66)	202	(84)

ANNEX B

EAST CAMEROON

TECHNICAL EDUCATION SECONDARY LEVEL EXAMINATION RESULTS

EXAMINATIONS		1964-1965			1965-1966			1966-1967			1967-1968			1968-1969		
		P	A	%	P	A	%	P	A	%	P	A	%	P	A	%
C.A.P.	Industrial	168	47	28,0	450	190	42,2	523	160	30,6	632	317	50,2			
"	Commercial	705	67	9,5	758	235	31,0	929	55	5,9	876	214	24,4			
"	Special	–	–	–	33	19	57,6	105	33	31,4	123	28	22,8			
C.F.A.	Stenography	–	–	–	157	25	15,9	123	21	17,1	175	26	14,8			
Homemaking Certificate		119	72	60,5	142	103	72,5	177	76	42,9	274	182	66,4			
B.E.I. Certificate of Industrial Education		49	9	18,4	60	21	35,0	72	24	33,3	117	29	24,8			
Brevet d'Enseignement Commercial	Accounting	–	–	–	28	24	85,7	50	31	62,0	171	55	32,2			
	Sect. Training	–	–	–	22	9	40,9	91	31	34,1	99	34	34,3			
	Total	36	25	69,4	50	33	66,0	141	62	44,0	270	89	33,0			
Technical Probative		30	13	43,3	28	13	46,4	25	9	36,0	29	10	34,5			
Brevet Professionnel	Commercial	–	–	–	–	–	–	69	15	21,7						
	Industrial	–	–	–	–	–	–	7	1	14,3						
	Total	–	–	–	–	–	–	76	16	21,1	68	23	33,8			
B.S.E.C.	Accounting	–	–	–	–	–	–	17	13	76,5	39	20	51,3			
	Sect. Training	–	–	–	–	–	–	7	3	42,9	26	16	61,5			
	Total	–	–	–	–	–	–	24	16	66,7	65	36	55,4			
Certificate of Technician		28	8	28,6	40	4	10,0	44	7	15,9	39	20	51,3			
Mathematics and Technical Diploma		13	5	38,5	19	2	10,5	20	4	20,0	18	9	50			

Source : Statistics Yearbook 1967-68.

TECHNICAL EDUCATION – SECONDARY LEVEL

East Cameroon

Year of studies		Enrolled	Promoted	Repeat	Drop-outs
1966-67					
1st or 6th th	Number	3 177	2 219	149	809
	Percent	–	69,8	4,7	25,5
2nd or 5th	Number	2 106	1 431	172	503
	Percent	–	67,9	8,2	23,9
3rd or 4th	Number	1 438	1 150	72	216
	Percent	–	80,0	5,0	15,0
4th or 3rd	Number	938	395	101	442
	Percent	–	42,1	10,8	47,1
Total 1st Cycle	Number	7 659	5 195	494	1 970
	Percent	–	67,8	6,5	25,7
Second	Number	403	271	72	60
	Percent	–	67,2	17,9	14,9
First	Number	186	98	20	68
	Percent	–	52,7	10,8	36,5
Final	Number	98	27	25	46
	Percent	–	27,6	25,5	46,9
Total 2nd Cycle	Number	687	396	117	174
	Percent	–	57,6	17,1	25,3
Total	Number	8 346	5 591	611	2 144
	Percent	–	67,0	7,3	25,7
1967-68					
1st or 6th	Number	3 569	2 785	182	692
	Percent	–	76,1	5,0	18,9
2nd or 5th	Number	2 391	1 619	177	595
	Percent	–	67,7	7,4	24,9
3rd or 4th	Number	1 503	1 172	99	232
	Percent	–	78,0	6,6	15,4
4th or 3rd	Number	1 251	463	155	633
	Percent	–	37,0	12,4	50,6
Total 1st Cycle	Number	8 804	6 039	613	2 152
	Percent	–	68,6	7,0	24,4
Second	Number	467	343	17	107
	Percent	–	73,5	3,6	22,9
First	Number	291	131	3	157
	Percent	–	45,0	1,0	54,0
Final	Number	123	65	4	54
	Percent	–	52,8	3,3	43,9
Total 2nd	Number	881	539	24	318
	Percent	–	51,3	2,7	36,1
Total	Number	9 685	6 578	637	2 470
	Percent	–	67,9	6,6	25,5

YEAR 1968-69 (PROJECTION)

Technical Education-Second Degree					East Cameroon
Year of Studies		Enrolled	Promoted	Repeat	Drop-outs
6th or 1st	Number	4 304	3 271	215	818
	Percent	–	76,0	5,0	19,0
5th or 2nd	Number	2 962	2 014	207	741
	Percent	–	68,0	7,0	25,0
4th or 3rd	Number	1 718	1 340	103	275
	Percent	–	78,0	6,0	16,C
3rd or 4th	Number	1 327	491	159	677
	Percent	–	37,0	12,0	51,0
Total 1st Cycle	Number	10 311			
	Percent				
Second	Number	480	356	14	110
	Percent	–	74,0	3,0	23,0
First	Number	346	156	3	187
	Percent	–	45,0	1,0	54,0
Final	Number	135	71	4	60
	Percent	–	53,0	3,0	44,0
Total 2nd Cycle	Number	961			
	Percent				
Total	Number	11 272			
	Percent				

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CENTRAL AFRICAN REPUBLIC

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I

INVENTORY OF FACILITIES FOR TECHNICAL EDUCATION AND VOCATIONAL TRAINING IN THE CENTRAL AFRICAN REPUBLIC

A. INSTITUTIONS AND COURSES ADMINISTERED BY THE MINISTRY OF NATIONAL EDUCATION

A1. and A2. Institutions providing long-term (2nd cycle) and short-term (1st cycle and preparation for CAP) technical education

a) Technical Lycée at Bangui and the College of Technical Education attached to it.

b) Art Trades School at Bangui.

A3. Para-industrial and handicraft training

a) Apprenticeship centers

b) 10 handicraft schools

A4. Training for women (home economics and dressmaking)

A4.1. L'Ecole Notre-Dame and the Lycée Caron.

B. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF LABOR

Center for vocational and advanced training

C. INSTITUTIONS AND COURSES ADMINISTERED BY OTHER MINISTRIES

C1. Training center at Baoro (closed)

C2. Training center for middle-level management personnel for public works

C3. National School of Postal Service and Telecommunications

D. VOCATIONAL TRAINING PROVIDED BY PRIVATE ENTERPRISE

E. TRAINING PROVIDED BY BILATERAL AND MULTILATERAL FOREIGN AID

E2. UNESCO and ILO

a) INPPPE (National Permanent Institute for Advanced Training of Teaching Staff)

b) Handicraft training

E3. AID/ORT Center

A. INSTITUTIONS AND COURSES ADMINISTERED BY THE MINISTRY OF NATIONAL EDUCATION

Introduction

In October 1968 the Central African Republic instituted an exclusively government-controlled education system. The ministry is composed of the Cabinet, the Department of Education, the Departments of Primary Education, Secondary Education and Technical Education. In addition, there is a department concerned with rapid and television education.

The Department of Education is assisted by a mission of UNESCO experts and by a center for research and pedagogic activities.

In the schools, optional religious instruction may be given outside the normal school hours. Those in charge of the religious group either give the religious instruction themselves or entrust it to teachers who undertake it voluntarily.

No child may be refused entry to any of the state schools solely on account of his religion or his race.

The construction and operation of private schools are at their users' own cost ; such schools may not be opened without Government permission, and are under its direct control.

State education is given by staff recruited or approved by the Government. The education officials are subject to various special regulations concerning education in the Central African Republic, and are responsible solely to the Ministry of National Education.

— Organization of Education, see Annex I.

— Numbers of persons receiving education in the CAR, see Annex II.

A1. and A2. Institutions providing long-term (2nd cycle) and short-term (1st cycle and preparation for CAP) technical education

a) Technical Lycée at Bangui and the College of Technical Education annex

These form one institution, which will be referred to below as the Lycée Technique.

In common with all technical lycées, it provides technical education at two levels : first cycle (short-term training), lasting three years, and second cycle (long term training), which is a continuation of the first and also lasts three years.

Training is of two kinds :

— **industrial,** for both levels, in the following trades :

auto mechanics
electricity
sheet metal work
general mechanics

masonry/heavy construction
carpentry

— **commercial,** in the following specialties :

bookkeeper and secretary, for both levels
office employees, for the first level.

The diplomas obtained at the end of these courses are :

— the CAP industriel or the CAP commercial for the students of the CET,

— the BEC for the long-term training.

The BEI experiment was a failure. The intention was to train students from a BEPC level ,but the only candidates recruited were of a lower standard.

The training for the technician's diploma also met with no success, since the level of the examination is too high in relation to the standard of the candidates. It has been replaced by the Brevet d'Enseignement Professionnel (BEP), recently created in France.

Attempts to recruit students from the end of the 5th grade onwards for the College of Technical Education (CET) have proven satisfactory.

Equipment

It is virtually impossible to attract young people into technical education with equipment that is frequently old and almost always inadequate.

When the ORT team visited the school, the buildings were very well kept. The machinery was properly protected with grease and dust covers.

Mr Pichon, the director of the Lycée, has made efforts to adapt the training program to the realities of Africa. This is no easy task, for several reasons. There has, however, been one beneficial innovation : the weekly timetable for the workshop has been extended from 14 to 18 hours, in order to make up for the numerous holidays and to make allowance for the lack of technological aptitude. Mr Pichon also said that in spite of all his efforts, private enterprise has consistently refused to cooperate with his lycée. He acknowledged that to some extent the private firms had reasons for being apprehensive about staff trained at the Lycée Technique, as they are particularly mobile (tending to take jobs in administration, grants for study abroad, wishing to be appointed immediately to a responsible position).

Mr Pichon has now been replaced by Mr Philippe Gleizes as Director of the Lycée Technique. Mr Gleizes was present on the second day of the Conference (October 30, 1969), but was not in a position to take an active a part as he had just arrived in the country.

No. of students in 1968

Course	No. of grade		No. of students	
			B	G
Lycée technique (industrial section)	6th	2	48	27
	3rd	1	24	–
	2nd Elect.	1	12	–
	2nd Auto.	1	10	–
	2nd Masonry	1	17	–
	1st Elect.	1	5	–
	1st Auto.	1	7	–
	1st Masonry	1	7	–
Total, L.T. industrial section		9	130	27
L.T. (commercial section)	3rd Comm.	1	28	1
	2nd Acct.	1	12	–
	2nd Sect.	1	–	6
	1st Acct.	1	10	1
	1st Sect.	1	–	6
Total L.T. Commercial section		5	50	14
CET (industrial section)	1st Elect.	1	14	–
	1st Auto	1	14	–
	1st Sheet metal	1	10	–
	1st Masonry	1	19	–
	2nd Elect.	1	13	–
	2nd Auto.	1	13	
	2nd Sheet metal	1	8	–
	2nd Masonry	1	19	–
	2nd Carpentry	1	11	–
	3rd Elect.	1	11	–
	3rd Auto	1	16	–
	3rd Masonry	1	11	–
	4th Diesel	1	7	–
Total CET industrial section		13	166	–
CET (commercial section)	1st	1	13	9
	2nd	1	26	11
	3rd	1	17	2
Total CET commercial section		3	56	22
Grand Total		30	402	63 = 465

In June 1969, the total number of students was 574.

Source : Statistical Yearbook 1967-68

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b) The Arts and Crafts School at Bangui

This school gives a 3-year training course to students recruited after tests at the end of the 5th grade, the final diploma being the CAP in one or more of the following trades or crafts:

Sculpture (ivory or wood), bookbinding, leatherwork, wrought iron, jewelry, ornamental work, and basketwork.

The students' work supplies a school cooperative which does a brisk trade. The school makes efforts to obtain good jobs for its graduates.

Numbers (1967/68): 1st year, 20; 2nd year, 15; 3rd year, 18. Total: 53.

A3. Para-industrial and craftsmanship training

a) Apprenticeship centers

The statistical yearbook for 1967/68 states that these centers exist in the main provincial towns, and that the total number of students is 1090, of whom 288 are girls.

b) Handicrafts schools

These provide a rural training following primary schooling. The schools are equipped for woodworking and supervised by the inspectors of primary education. Each operates as a school cooperative with its own statutes. The period of training is, in principle, 2 years, but in practice is often extended by a year.

Successful completion of apprenticeship is attested by the award of a certificate. This training does not often correspond to rural needs. Projects for training in rural handicrafts is dealt with later in this report.

Place	Level	Number of courses	No. of students
BOUAAR	First year	1	40
ALINDAO	First year	1	23
BANGASSOU	First year	1	40
BOSSANGOA	First year	1	40
BOZOUM	First year	1	40
BERBERATI	First year	1	40
SIBUT	First year	1	40
MBAÍKI	First year	1	40
BAMBARI	First year	1	19
BRIA	First year	1	40
	174	TOTAL	362

A4. Training for women and girls (home economics and dressmaking)

A4.1. The Notre-Dame school and the Lycée Caron train young women for a CAP diploma in dressmaking and for a diploma of equivalent standard in home economics.

Total number : 193.

The students of the Lycée Caron tend readily to regard the possession of a CAP diploma in dressmaking as giving entry to the civil service, as a dressmaking instructor. In addition, they seek jobs in the capital, where employment of this kind is saturated, and refuse employment in the provinces.

B. Institutions administered by the Ministry of Labor

Accelerated Vocational Training Center (CFPR) at Bangui

Same type as the accelerated vocational training centers in Chad and Cameroon. It gives nine months training to young men recruited after tests which are, in principle, at the level of the CM2 diploma. The true level of those graduating is that of a skilled worker. The number of sections functioning each year has been very variable ; for example, during 1965/66, only a plumbing section was functioning.

From the date of its creation up to December 1967, the CFPR has admitted 465 trainees, distributed into 37 training courses in 15 different vocational activities :

—	auto mechanic	15 trainees
—	stonemason	87 »
—	reinforced concrete technician	27 »
—	carpenter	95 »
—	construction carpenter	20 »
—	plumber	10 »
—	driver-repair mechanics	55 »
—	constr. electricians	45 »
—	shoemaker - harness-maker - saddler	30 »
—	asst. driver constr. & public works	15 »
—	asst. mining prospector	30 »
—	asst. moulder-corer	21 »
—	repair technician for agric. & road-making machinery	15 »
—	maintenance electricians	15 »
—	flooring technician	14 »

Since November 1, 1963, advanced training courses have been provided in the evenings in the following subjects :

— Construction electricity
— Automobile electricity
— Training & advanced courses for supervisors & foremen

Numbers on July 1, 1969, were :

Commercial section	17 boys	18 girls
Electrical section	15 »	
Flooring section	15 »	

Mr Gahoro, Director of the CFPR, talked of his wish to open sections for construction (carpentry and concrete forms). He has attempted to construct workshops from his own resources, but these resources are inadequate. The center has about 2 1/2 acres of land which could be used for buildings, if financing could be found.

C. Instutitions and training courses administered by other Ministries

C1. Training center at Baoro, linked to the Ministry of Public Works

Until July 1966, this center trained operators for road-building and other heavy equipment. It closed because the number of people available at this level of training was not sufficient.

C2. The training center for middle-level public works staff

Created through joint financing by FFD and FAC.

C3. National School of Postal and Telecommunications Services

This is a regional school for the training of lower and middle-level technicians for the postal and telecommunications services. It has two sections :

- a postal section, recruiting 10 to 15 students each year at CEP 3 and BEPC level, giving them 4 or 8 months of training respectively for the jobs of clerks, postal clerks and specialists.
- a telecommunications (telephone) section, recruiting, according to need, future welding technicians (competitive examination at 5th grade level, one year's training), team leaders for telephone line installation (recruitment of CAP holders, 1 year's training), installation technicians (competitive examination among holders of BEPC, 2 years' training) and installation inspectors (recruitment at secondary level, 2 years' training).

This school is complementary to the National Telecommunications School at Fort-Lamy in Chad.

A project for regionalization of the National School of Postal and Telecommunications Services has been presented by the Minister to the Special Fund and submitted to the International Telecommunications Union. This envisages extension of the existing college and greater facilities for admitting trainees from neighboring countries. The staff requirements, in fact, are large and, for the five next years, the CAR needs 35 inspectors (3 years' training), 79 installation technicians (1 year's training), 52 team leaders (9 months' training) and 96 welding technicians (9 months' training).

The requirements for technicians will increase as telecommunications develop in Central Africa.

D. Vocational training provided by private enterprise

D1. Courses given by the Chamber of Commerce at Bangui

Begun in October 1966, these evening courses are intended for employees who wish to study for the various commercial CAP diplomas and are under the supervision of the Director of the Technical Lycée.

D2. Technical training center operated by the banks

The same system as in Chad.

D3. Training provided by private enterprise

Apart from "on the job" training, some firms provide training and advanced courses for the benefit of their employees. These firms are SCKN, CCSO, SEEE and Berliet.

E. Training given within the framework of bilateral and multilateral foreign aid

E2. UNESCO and ILO

a) The National Permanent Institute for Advanced Training of Teaching Personnel (INPPPE)

This CAR-UNESCO-UNICEF project, which is administered by Mr Jérémie Ikolil, provides upgrading courses and advanced training for teachers of all subjects included in primary education.

Length of courses : 3 months ; capacity of institution : 50 teachers at a time.

After the 3-months' training, the teachers return to their schools, which, incidentally, are "pilot" primary schools. Included in the subjects taught are : psycho-pedagogy, French and mathematics ; school organization (legislation) ; audio-visual methods and educational manual work (TME).

The ORT experts visited the school accompanied by Mr Ikoli and Mr Hoche, who is a UNESCO teacher. The buildings are old, and poorly adapted to their purpose. A request for financing has been submitted to AID for the construction of a new school. The spirit and atmosphere found there are undeniably good, but there is much to be done, especially in the field of educational manual work and the fabrication of audio-visual aids for instruction.

This program is dealt with later under the heading "Recommendations".

b) Handicraft training

The rural handicraft schools have already been mentioned under A3.b.

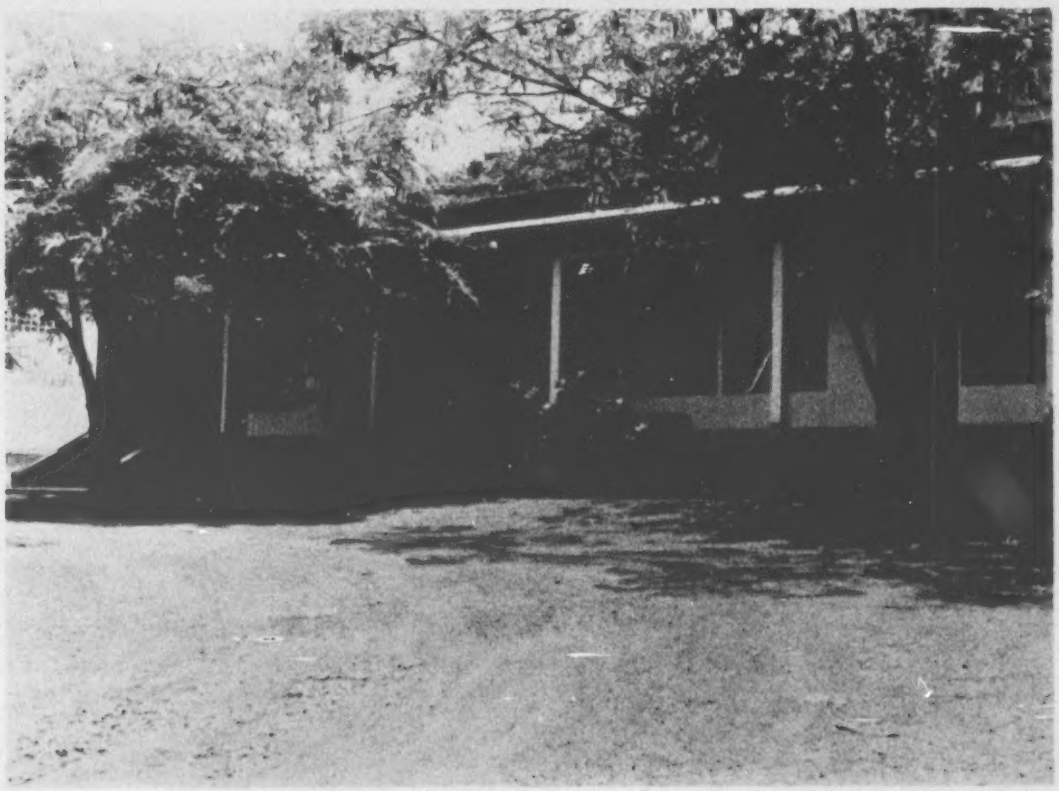
These centers were built with financing from the FED. The United Nations Development Program has been asked by the Central African Government to provide equipment and technical assistance (ILO) for these workshops.

An extremely useful report on the vocational training in rural handicrafts was prepared in June 1969 by Mr A. Lawrence, United Nations Resident Representative in the Central African Republic. This report provides vital insights into handicraft training problems.

E3. AID/ORT training center

Within the framework of a project financed by AID, ORT is providing training to personnel responsible for the maintenance and use of the national pool of heavy agricultural and road-construction machinery. This equipment, normally under the responsibility of Europeans, will in future be operated and maintained by African technicians who have completed their training with ORT. At the same time, the experts train instructors as counterparts. Within a short time, the role of ORT will be limited essentially to providing advice for a limited period to the local staff.

Training is provided in classrooms, workshops and on-the-job. The center has, to date, trained 24 agricultural tractor operators, 3 mobile greasing unit operators, 2 loader operators, 36 trainees at the agricultural center at Grimari, agricultural mechanics courses, and the advanced training of: 13 mechanics foremen, 24 heavy equipment operators, 16 agricultural tractor drivers, plus more than 50 agricultural equipment operators, trained on-the-job, during the "Operation Bokassa" agriculture campaign. At present, the center is ensuring the training of: 9 harvester-thresher operators, 30 trainees at the agricultural center at Grimari in agricultural mechanics courses, 5 trainees who will assure the continuation of this project, and one agriculture inspector.



The Lycée Technique - Bangui

II

EMPLOYMENT SITUATION AND TRAINING NEEDS

A. EMPLOYMENT SITUATION

In 1966, the active population was 771,000, of whom 380,000 were men and 388,000 women. The agricultural sample survey carried out in 1967, and covering only the province of Haut M'Bomou and certain cattle-raising areas, showed 600,000 people engaged in agriculture, or some 88 per cent of the active population, which is 680,000 people.

Employees :

Public sector :

in 1966, 11,650 officials, not including the army and the police. The figures for 1969 were not available.

Private sector :

in the census taken at the end of 1965, there were 36,210 wage-earning workers, of whom 13,393 were unskilled and 6,500 were domestic staff (Annex III). However, from January 1 to December 31, 1968, the statistics of the National Employment Office showed 4,793 employed workers, which thus brings the total number of wage-earners in the private sector to 40,536. A table is attached showing the number of employees as recorded during 1968 (Annex IV).

Job supply and demand (according to the Employment Office, activity report for 1968).

Quarterly distribution of job vacancies and demands, with the number of demands satisfied

a) Salaried employees and similar categories

	OFFERS OF EMPLOYMENT	REQUESTS FOR EMPLOYMENT	
		RECEIVED	SATISFIED
1st quarter 1968	195	203	195
2nd quarter 1968	65	110	65
3rd quarter 1968	129	161	129
4th quarter 1968	214	290	214

b) Skilled and semi-skilled workers and similar positions

	OFFERS OF EMPLOYMENT	REQUESTS FOR EMPLOYMENT	
		RECEIVED	SATISFIED
1st quarter 1968	104	137	103
2nd quarter 1968	69	83	68
3rd quarter 1968	108	131	107
4th quarter 1968	126	116	115

c) Unskilled workers

	OFFERS OF EMPLOYMENT	REQUESTS FOR EMPLOYMENT	
		RECEIVED	SATISFIED
1st quarter 1968	108	145	105
2nd quarter 1968	152	133	155
3rd quarter 1968	94	79	79
4th quarter 1968	160	155	162

The situation has not improved in certain industries, where former students of the vocational training schools, give up their jobs because of the wages, which are drastically lower than those for office employees with the same level of qualification. These young men turn most often towards the careers offered by the civil service and are usually completely divorced from the specialization in which training was received.

The vacancies for clerical staff were constant throughout 1968, but in reality they are even more numerous than those given officially, employers usually trying to obtain staff with higher qualifications, who are, in fact, unobtainable.

Vacancies for stenographers, stenotypists, bookkeepers and assistant bookkeepers holding diplomas, administrative and commercial assistants continue to go unfilled.

During the year 1968, unskilled workers living in Bangui did not suffer from unemployment. The Central African Cotton Industries (ICCA) recruited a fair number for its factory, and the workers concerned have remained in their jobs. On the other hand, those who came from the interior, attracted by the jobs offered by the ICCA and other firms in Bangui, have found it difficult to get jobs, and are presently idle. It is possible that they will eventually return to their own regions. They will probably be replaced by others.

The urbanization phenomenon, although still irregular, and the continual widening of the modern economic sectors, partly due to the surge in manufacturing industries, have had the effect of accelerating the migratory movements in the CAR.

B. TRAINING NEEDS

The information available is neither abundant, exhaustive, nor consistent. The main basis of this section is the Development Plan for 1967/70, which relied on the amounts shown in the CAR budget for 1966 for the public sector, and, for the private sector, on the statistics of June 1963 of the Ministry of Labor, the 1965 CEGI survey of employment in the CAR, and the statistics available at the Central African Office of Social Security.

1. Public sector

The additional requirements for technical personnel during the period of implementation of the Plan are as follows:

EDUCATION	Teachers (A scale)	70
	Assistant teachers (C scale)	600
PUBLIC WORKS AND RURAL ENGINEERING	Public works engineers (A scale)	9
	Equip. operators, tech. assts, works Supervisors (B scale)	15
	Foremen (C scale)	18
	Operators (D scale)	47
MINING	Engineers (A scale)	2
	Tech. assts, workshop supervisors (B scale)	2
	Technicians (C scale)	3
LAND SURVEY	Survey engineers (A scale)	3
	Chief surveyors (B scale)	2
	Operators (C scale)	12
	Asst operators (D scale)	20
CIVIL SERVICE AND LABOR	Probationary teachers CFPR (B scale)	3
	Asst probationary teachers, CFPR (C scale)	3
STATISTICS	Tech. assts (B scale)	8
POSTAL AND TELECOMMUNICATIONS SERVICE	Engineers & inspectors (A scale)	10
	Inspectors (B scale)	44
	Clerks, specialists (C scale)	167
	Postal clerks (D scale)	56

2. Private sector

a) New needs

Administrative and commercial personnel:

3rd to 5th category (qualified personnel level)

Bookkeeping	20
Insurance	10
Shipping	10
Office employees	50
Banks	10

6th and 7th category (highly qualified personnel level)

Bookkeeping	20
Insurance	5
Shipping	5
Banks	10

8th category (managerial staff) 20

Technical personnel

3rd to 5th categories (skilled workers)	270
6th and 7th categories (highly skilled workers)	50
8th category (technicians, managers)	30

These new needs are essentially concerned with the following sectors: timber, textiles, food processing, foodstuffs, transportation, after-sales service, hotel industry, small enterprises.

b) Personnel Turnover

The basis for calculation was an annual turnover of 4 per cent on a total of 8,400 jobs in 1966, requiring training.

Category	Administrative and commercial staff	Number	Technical staff	Number
8th	Directors	45	Dept. heads	60
	Dept. heads	45	Foremen	4
	Accountants	12		
	Misc.	8		
6th and 7th	Accountants	25	Dept. heads	10
	Managers	25	Foremen	10
	Misc.	30	Storekeepers	10
			Misc.	4
3rd to 5th	Employees	100	Construction	150
	Salesmen	50	Mechanics	80
			Woodworkers	80
			Operators	60
			Clothing ind.	40
			Textiles	30
			Electricity	15
			Misc.	51

C. Contacts with employers or their representatives

The adjustment of needs and resources to conform with reality is not attempted in this report partly because the employment situation has evolved in a different way from that foreseen by the plan and partly because, with regard to the estimated requirements, it is almost impossible to make a sufficiently detailed survey given the present availability of accurate information. Mr Pichon, the Director of the Technical Lycée, gave an example : the existing sections in the school correspond to demand, but this is only on an overall basis. For example, 15 auto mechanics are trained in 3 years to meet on overall need for 15 auto mechanics envisaged at the end of the training period, while the real demand is for

5 auto mechanics (gasoline)
5 diesel mechanics
5 automobile electricians

The ORT team, with these factors in mind, made contacts with :

Mr Sebiro	President of the Chamber of Industry and Handl-Crafts
Mr Songomali	President of the Chamber of Agriculture, Animal Husbandry, Water and Forests
Mr Mackpayen	President of the Chamber of Commerce in Bangui
Mr Grisoni	Director of Tourism

Interview with Mr Sebiro

The Chamber of Industry and Handicrafts is mainly concerned in training CAR nationals to promote the policy of Africanization.

The training of industrial and handicrafts middle-level manpower is carried out in conjunction with employers both inside and outside the country.

For Mr SEBIRO, the most urgent problem is the training of construction workers. He made the following requests :

— creation of a handicrafts (ART) industry, which could be developed with the aid of two experts ;
— a training center for watch and clock - repair personnel who are completely non-existent in the CAR.

He envisaged, as a beginning ,the training of 3 such technicians for Bangui and one per province. The total needs for the next 10 years has been estimated at 60 persons.

Mr Sebiro is of the opinion that middle-level and senior staff should be trained in a regional school for all of Central Africa.

Details of all the efforts made by the Chamber of Industry and Crafts to attract young people into private entreprise were given by Mr Sebiro.

Interview with Mr Songomali

The problem for this body appears to be the training of men for the rural positions (agricultural officials, rural engineers, forestry, reafforestation and game wardens). His promise was kept and a written account of the detailed problems with which he is concerned was sent to ORT. A portion of this request is presented in Annex V, even though this project is not directly linked with this survey.

Interview with Mr Mackpayen, accompanied by Mr Pecquer, Technical Advisor and interim Secretary General, and Mr Zarambaud, Director of General Studies

Their problem is the creation of a middle-level commercial school with a general store for the sale of local products. The essential points of this project are set forth in Annex VI.

Interview with Mr Grisoni

Mr Grisoni is a member of the French technical aid team (FAC), and is doing an excellent job in the field of tourism. He explained that in the CAR, there are two types of tourism : the hunting safari, and sightseeing tourism.

a) Hunting safari

In this field, three companies, SAFO, SAFARAFRIQUE and SAFARI CENTRAFRIQUE, have invested 75 million, 80 million and 12 million CFA francs respectively in bush hotels and bungalows. The staff for maintenance and service is very limited, and almost without training. However, it is true that for this type of hotel, formal training in depth is not necessary.

b) Tourists

1. Reception staff

   In the opinion of Mr Grisoni, taking into consideration the reception hostesses already employed, there is a new need for 4 more hostesses over the next five years.

2. Hotel Staff

   — Special workers (restaurant, public rooms and hotel rooms). The existing staff (about 50) needs to be retrained and some 250 others must be trained, 30 of them at a higher level of maître d'hôtel.

   — Graduates of the hotel training school (foodwaiters, hotel managers, etc.) - between 15 and 20 are needed.

   — Hotel directors - the CAR needs 6.

During the Conference in Bangui, Mr Grisoni recommended a project for a school for hotel training, as well as hunting guide training, and a taxidermy section. The essential parts of his presentation will be found in the project proposal for the hotel school.

III

RECOMMENDATIONS

R.1. Creation of a National Office for Vocational Training

More than any of the other countries studied, the Central African Republic needs such an office (or commission - the title is uninportant for this would go far in promoting closer cooperation between employers and the Ministry of National Education.

R.2. Encourage and intensify the regional character of the National School of Postal and Telecommunications Services, which would thus complete the range of specialties offered by the school in Chad.

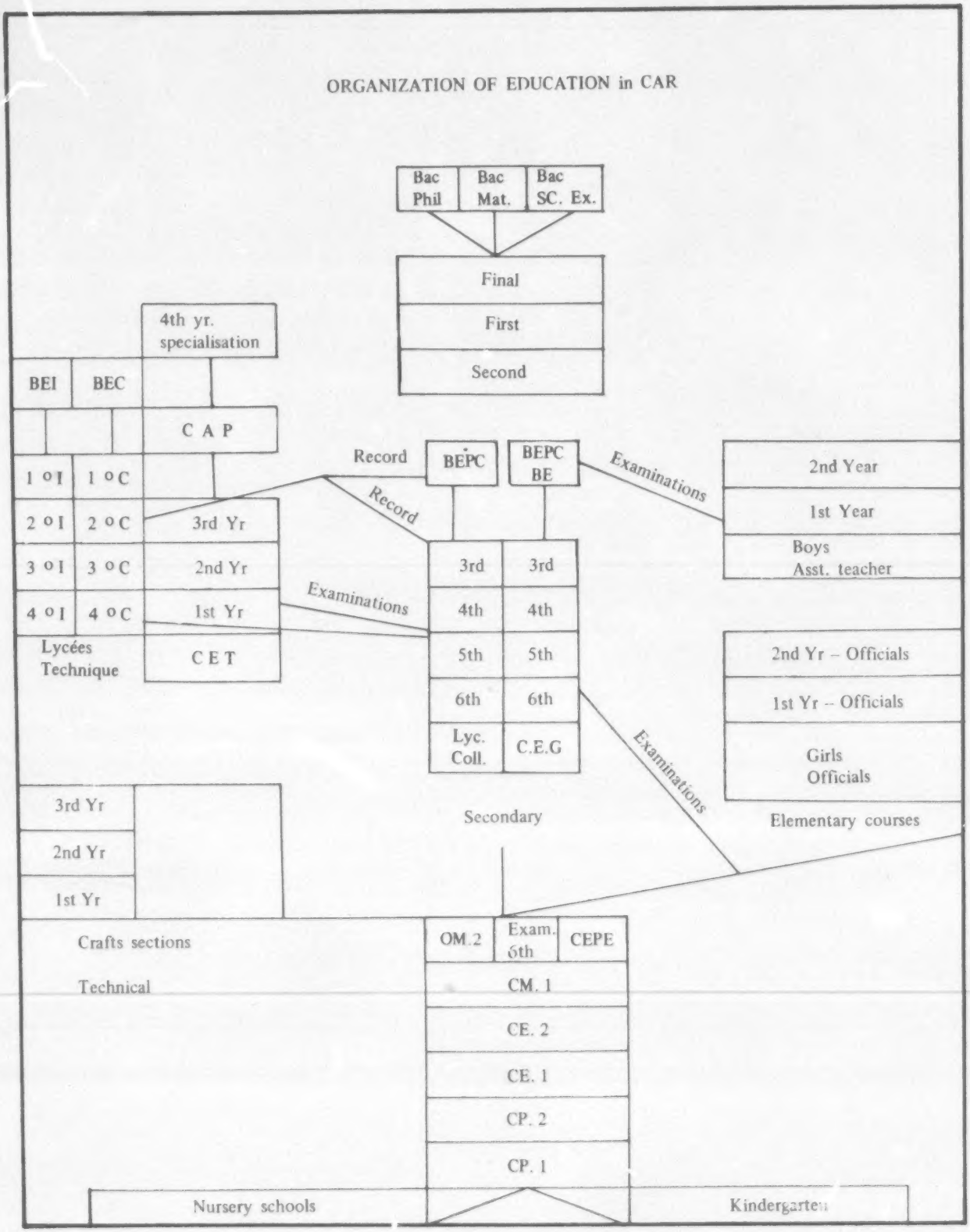
R.3. Creation of a Commercial School to train commercial staff for the interior and for the port of Bangui (see project Annex VI).

R.4. Creation of a Regional Training School for watchmakers which, in addition to training students to repair clocks and watches, would also train precision mechanics and technicians capable of repairing measuring instruments (aircraft instruments, electrical hydraulic and pneumatic measuring instruments, etc.).

R.5. Hotel industry and Tourism

Chapter II has described the importance, for the Central African Republic, of hotel training, and this subject will be dealt with again under the regional recommendations.

ORGANIZATION OF EDUCATION in CAR



Source : Statistical Yearbook 1967-68.

ANNEX II

GENERAL TABLE OF EDUCATION 1967-68

A)- Number of students in the Central African Republic

Type of instruction	No. of Inst.	No. of classes	STUDENTS		TOTAL
			Boys	Girls	
Pre-school instruction	64	66	3 003	2 242	5 245
Primary education	755	2 641	108 388	44 936	153 324
Lycée - college : modern courses	7	111	3 048	448	3 496
College of general education	8	49	1 650	59	1 709
Technical education	14	54	802	288	1 090
Normal education	2	6	76	53	129
TOTAL	850	2 927	116 967	48 026	164 993

B)- Number of students in other countries

Secondary education	-	-	5	5	10
Higher education	-	-	73	7	80
Major schools, etc.	-	-	17	1	18
Higher technical education	-	-	11		11
Specialist education	-	-	1	1	2
Paramedical and social training	-	-	-	9	9
Middle-level tech. vocational training	-	-	29	16	45
Miscellaneous	-	-	*	*	395
TOTAL	-	-	136**	39**	577
OVERALL TOTAL	850	2 927	117 103**	48 065	165 570

* numbers not available

** approximately

Source : Statistical Yearbook 1967-68

ANNEX III

NUMBER OF WORKERS PER OCCUPATIONAL CATEGORY

	Centralafricans	Other Africans	Europeans	TOTALS
Administration				
Directors	16	6	340	362
Accountants	84	27	106	217
Heads of services	19	3	132	154
Secretaries	11	2	154	167
Typists-office workers	417	38	35	490
Storekeepers	10	-	2	12
Drivers-janitors	178	-	-	178
Social workers	13	-	-	13
Commercial				
Directors	5	-	-	5
Officials, heads of sectors	173	32	115	320
Secretaries	-	-	18	18
Sales staff - canvassers	242	8	33	283
Office workers	296	27	19	342
Storekeepers	48	5	8	61
Cashiers	14	-	3	17
Stock handlers	783	-	-	783
Technical				
Engineer-technicians	-	-	3	3
Heads of service	27	16	281	324
Foremen	87	6	58	151
Storekeepers	46	6	8	60
Cashiers	3	-	2	5
Office workers	258	5	27	290
Machinists	334	34	26	394
Timber workers	16	-	-	16
Building workers	10	-	-	10
Footwear workers	64	-	3	67
Hotel staff	229	2	3	234
General services	72	8	6	86
Social services	24	-	15	39
Printing workers	33	2	5	40
Specialized workers	1 542	13	-	1 555
Storekeepers	104	5	-	109
Drivers, all categories	683	23	-	706
Mechanics	867	50	-	917
Mechanics	358	16	-	374
Electricians	195	18	-	213
Timber workers	1 170	15	-	1 185
Building workers	1 620	3	-	1 623
Agricultural workers	113	-	-	113
Forestry and sawmill workers	798	8	-	806
Boatmen	18	10	-	28
Diamond workers	96	-	-	96
Printing workers	31	-	-	31
Textile workers	464	-	-	464
Brewery workers	27	-	-	27
Garment workers	428	-	-	428
Bakery workers	103	15	-	118
Postal workers	212	5	-	217
Aluminum workers	18	-	-	18
Shipyard workers	84	2	-	86
Social service workers	21	-	-	21
Janitors and guards	2 030	13	-	2 043
Laborers	13 390	3	-	13 393
Domestic staff	6 500		-	6 500
TOTALS	34 384	426	1 402	36 212

Source : Plan 1966-70

ANNEX IV

EMPLOYEES RECORDED IN 1968

UPPER – SANGHA

Occupational Category	Total no. of employees	Centralafricans		Other Africans		Nationals of other countries		TOTALS	
		M	F	M	F	M	F	M	F
Administrative Personnel	38	4				30	4	34	4
Managers and technicians	31	5		1		21	4	27	4
Supervisors and foremen	95	54		2		39		95	
White-collar workers	382	346	1	27		7	2	380	3
Skilled workers	422	397		23		2		422	
Unskilled workers	2809	2795	11	3				2798	11
Apprentices	60	60						60	
TOTALS	3838	3661	12	56		99	10	3816	22

Source : National Employment Office

ANNEX IV (Cont.)

Occupational category	Total no. of employees	Central Africans		Other Africans		Nationals of other countries		TOTALS	
		M	F	M	F	H	F	M	F
Administrative Personnel	7					6	1	6	1
Managers and technicians	3					2	1	2	1
Supervisors and Foremen	4	1				3		4	
White-collar workers	320	203	1	4				317	1
Skilled workers	125	125						125	
Unskilled workers	494	494						494	
Apprentices	2	2						2	
TOTALS	955	825	1	4		11	2	952	3

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Source : National Employment Office

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CHAMBER OF AGRICULTURE
ANIMAL HUSBANDRY, WATER
AND FORESTS,
HUNTING AND TOURISM
P.O. Box 850 — Tel.: 33-23
BANGUI

ANNEX V

CENTRAL AFRICAN REPUBLIC
Unity — Dignity — Work

PROGRAM FOR MIDDLE-LEVEL MANAGEMENT TRAINING

Agriculture

In the field of agriculture, our national chamber intends to pursue its efforts to create a framework of management for the rural communities. For this purpose, if funds permitted, the Chamber would send large numbers of young men, especially those who have not integrated into city life, for a period of agricultural training. The young men in question would be those who left school with no higher level of education than a CM 2 or a CEPE, who have not succeeded in finding work, and who daily swell the ranks of the unemployed. These young people, having finished their training, would work alongside their state trained colleagues, and in certain communities they would be appointed as agents of the Chamber of Agriculture, placed at the service of the Administration.

If funds permitted, these agents could be paid by the Chamber of Agriculture, which is represented in each province of the country.

Animal husbandry

The program proposed for agriculture could also be extended to the breeding field. The Chamber of Animal Husbandry would thus not be a fictitious institution, but would be capable of making its own contribution to the Breeding Service, which in any case does not have enough agents to cover the needs of the whole country.

Water, forests, hunting

The problem of regeneration of our forests must be seen from the long-term viewpoint. For this reason the Government is attempting to stimulate studies on the subject, and it is the duty of our population to realize the significance of this effort. Thus, it would be useful if the Chamber of Water, Forests and Hunting act in what could truly be called "cooperation" with the Administration by training supervisors for basic operations, who could then assist the Administration's agents in projects for reafforestation, game reserves and national parks.

The agents of the Chamber would not be officials or agents of the authorities. These prerogatives belong to agents of the Administration. The agents of the Chamber would be mandated representatives from the region concerned, and their role would be to explain to the inhabitants of the region the importance of reafforestation of a game reserve or of a national park.

Tourism

If the tourist industry is to thrive and grow, it must be understood by the populations in those areas where tourists are likely to visit. The Chamber of Tourism, therefore, considers that in each province a tourist office should be created in which the local mayors and their assistants, with the leading citizens and tradespeople, could meet to discuss such matters as the conservation of sites and building of trails leading to waterfalls and other places of interest to tourists.

If an awareness of tourism is instilled into the minds of the rural population, this could lead to spontaneous initiatives for building tourist villages in rural areas, where the visitor may find the rest he seeks "far from the madding crowd".

The Chamber of Tourism would like to appoint to each tourist office an agent specially trained for the job, to draw the attention of the general public to the great interest that this industry merits.

Obviously, these tourist offices should, once created, be linked to the Central African Tourist Office. The nature of this association would have to be defined by the Administration, in particular the Department of Tourism.

To sum up, we do not think that the program outlined here would duplicate that of the Administration, but would complement it.

Consequently, if finances were available, we would propose to appoint agents as follows :

Agriculture :

Ouham	2 agents per community for 22 communities
Ouham Pendé	2 agents per community for 23 communities
Ouaka	2 agents per community for 16 communities
Kémo-Gribingui	2 agents per community for 14 communities
Basse-Kotto	2 agents per community for 16 communities
M'Bomou	2 agents per community for 9 communities
Ombella-M'Poko	2 agents per community for 9 communities
Lobaye	2 agents per community for 14 communities
Nana-Mambéré	3 agents for the province
Bamingui-Bangora	2 agents for the province
Haute-Kotto	3 agents for the province
Haute-Sangha	3 agents for the province

Animal Husbandry

Ouaka	3 agents
Nana-Mambéré	4 agents
Ouham-Pendé	2 agents
Vakaga	1 agent

Water, Forests, Hunting

Lobaye	2 agents per community for 4 communities
Basse-Kotto	2 agents per community for 5 communities
Vakaga	3 agents for the province
Kémo-Bamingui	5 agents for the 2 provinces

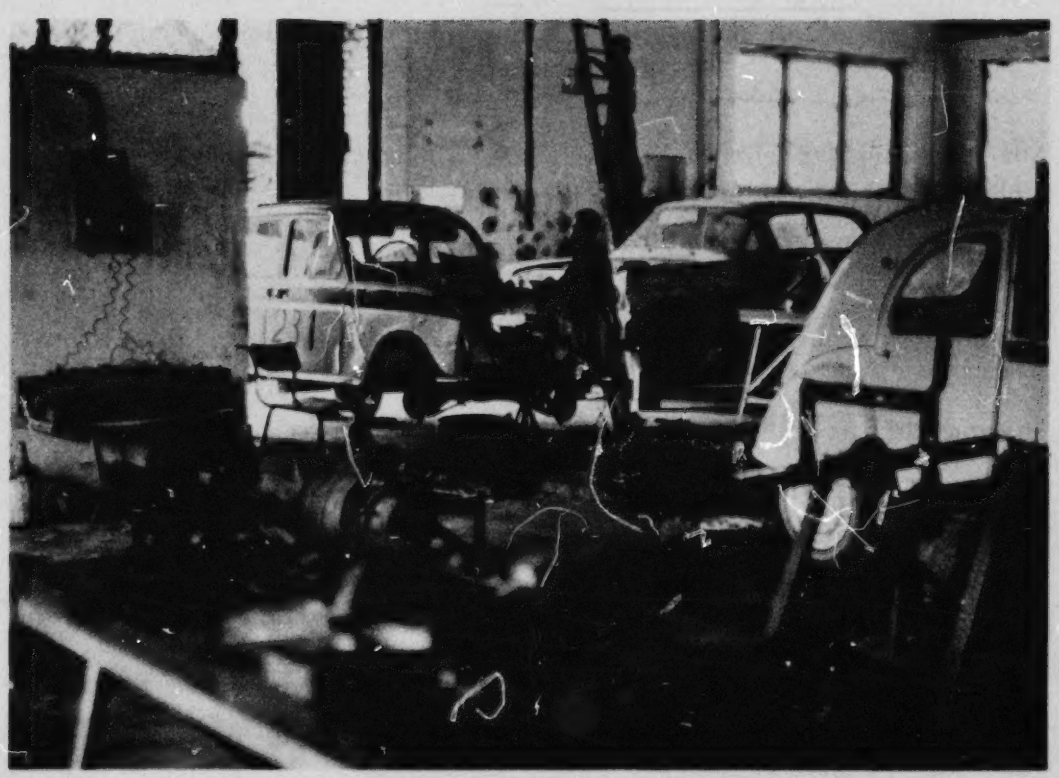
Tourism

Bamingui-Bangoran	3 agents
Vakaga	3 agents
Haute-Kotto	2 agents
M'Bomou/Haut M'Bomou	4 agents

The whole program, if suitably implemented, would constitute not so much a training program for management in the conventional sense, but a vocational training project for encouraging young people to return to the land.

Recapitulation

Agriculture	247 agents
Breeding	10 agents
Water, Forests, Hunting	18 agents
Tourism	12 agents
TOTAL	287 agents



Automobile mechanics shop - Rapid vocational training Center - Bangui

ANNEX VI

EXCERPT FROM THE REQUEST OF THE CHAMBER OF COMMERCE OF BANGUI (C.A.R.)

The Central African Republic at present has no **school for training middle-level managers in commerce.**

We are thus obliged to send those of our countrymen capable of benefiting from this type of training to a foreign country, with all the uncertainties that this implies with regard to their reintegration into the life of the country.

Commerce in Central Africa is carried on chiefly by big European firms, or else by Africans from other countries, Centralafricans being more agricultural than commercial.

In view of these problems, we have decided to create a commercial school for training middle level managers, not only by theoretical education but also by practical instruction.

The methods used will not aim solely at training persons with the idea of integrating them into the existing network of private enterprises, a policy which could lead, within a comparatively short time, given the number of students, to sending them straight from school into unemployment. The school will be for the training of future independant tradesmen or store managers.

After the normal cycle of studies and a period of practical training, the graduate students of the school would be working among technical or commercial assistants trained in France through the agency of the technical schools of the chambers of commerce in Paris and Marseilles, who would assist and advise them with regard to the choice, location and management of their future business.

Needless to say, our organization will supply financial aid to launch these Centralafrican businessmen.

The practical part of the training would be provided by creating a large department store, which would achieve two objectives:

1) the rational distribution of the country's own products, at present faced with numerous difficulties;

2) the practical training of our students, who, when they have finished their theoretical studies, would fill the posistion needed for the proper operation of the store (collecting goods for sale, transportation, sales, management, administration, direction, accounting, public relations, etc.)

The importance of this project and the motives which led us to devise it do not escape us, and the establishment of a practical program for its implementation requires a survey by a specialized organisation, to serve as a basis for the future commercial school and its department store, which would form one unit.

ANNEX A

C.A.R. TECHNICAL EDUCATION – 1967-1968

Distribution of Teaching Personnel by Grade and Nationality

Lycée Technique in BANGUI

Grade	Centralafricans		French		Other Nationalities		Total	
	M	F	M	F	M	F	M	F
		–	3	2	–	–	3	2
Steno - Typist Teacher	–	–	1	1	–	–	1	1
Language Teacher	–	–	1	1	–	–	1	1
Mathematics Teacher	–	–	5	–	–	–	5	–
Letters Teacher	–	–	5	–	–	–	5	–
Nat. Sc. Teacher	–	–	–	1	–	–	–	1
Ind. Design Teacher	–	–	4	–	–	–	4	–
PTA - Masonry	–	–	4	–	–	–	4	–
PTA - Genl. Mechanics	2	–	2	–	–	–	4	–
PTA - Auto Mechanics	1	–	4	–	–	–	5	–
PTA - Electricity	–	–	5	–	–	–	5	–
Head of Works	–	–	1	–	–	–	1	–
PTA - Diesel	–	–	1	–	–	–	1	–
Phy. Educ. Instructor	1	–	1	–	–	–	2	–
PTA - Woodwork	1	–	1	–	–	–	2	–
Asst. Head of Works	–	–	1	–	–	–	1	–
Total	5	–	39	5	–	–	44	5

Craftsmanship Sections

Home Making Teacher	–	–	–	–	–	1	–	1
Asst. Technical Teacher PTA	–	–	–	2	–	–	–	2
Rural Technicians	–	–	–	1	–	–	–	1
General Education	–	–	–	5	–	–	–	5
Drawing Instructor	–	–	–	1	–	–	–	1
Teacher Trainees	10	1	–	–	–	–	10	1
Workers Instr.	–	2	–	–	–	–	–	2
C.E.G. Teacher	–	–	–	1	–	–	–	1
Monitors-Instruc.	2	–	–	–	–	–	2	–
Head PTA	6	–	–	–	–	–	6	–
Total	18	3	–	10	–	1	18	14

Source : Statistical Yearbook 1967-68.

ANNEX B/2

C.A.R. EXAMINATION RESULTS – 1968

Certificat d'Aptitude Professionnelle Commercial (CAPC)

Trades	Institutions	Sex	Centralafricans			Europeans		
			Presented	Passed	%	Presented	Passed	%
Office Workers	Lycée Technique	B	15	6	40	2	2	100
		G	1	1	100	–	–	
	Free Candidates	B	11	2	18,1	–	–	–
Assi. Bookkeeper	Lycée Technique	B	13	4	30,7	–	–	–
	Free Candidates	B	9	–	–	1	–	–
		G	–	–	–	1	–	–
Bank Employees	Free Candidates	B	17	7	41,1	–	–	–
Steno-Typist	Lycée Technique	G	2	2	100	1	1	100
TOTAL		B	65	19	29,2	3	2	66,6
		G	3	3	100	2	1	50

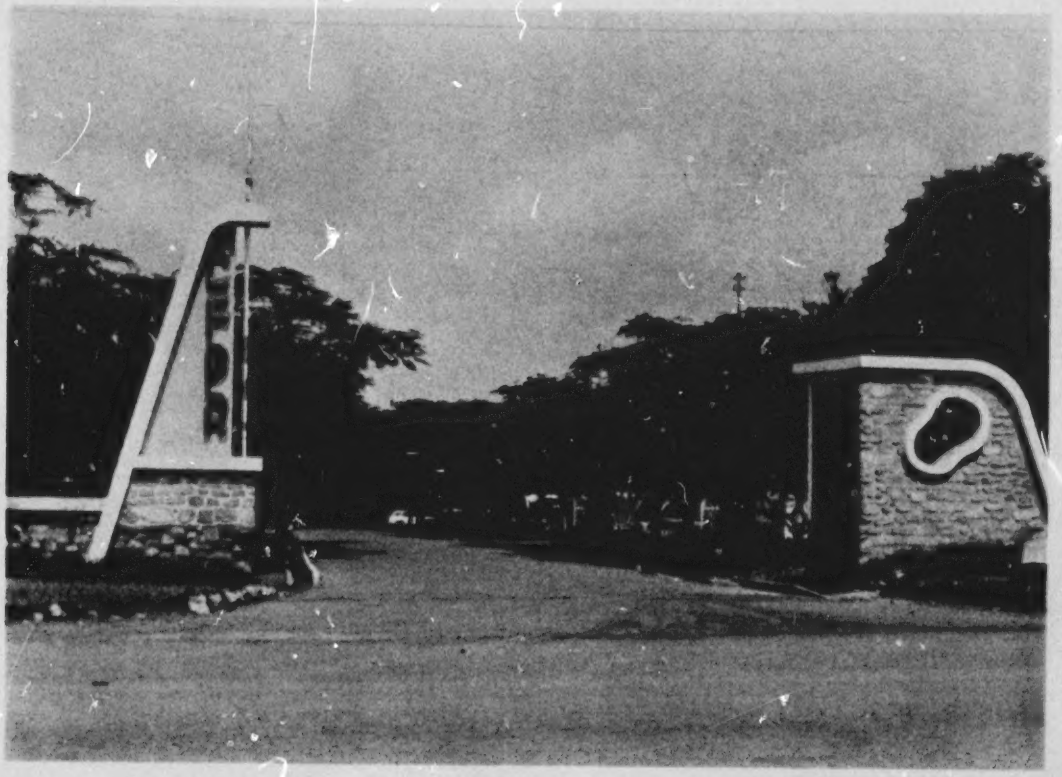
Brevet d'Enseignement Industriel (BEI)

Auto Mechanics	Lycée Technique	B	5	2	40	2	1	50
	Free Candidates	B	–	–	–	1	1	100
Electricity	Lycée Technique	B	4	1	25	1	–	–
Construction	Lycée Technique	B	6	2	33,3	1	1	100
TOTAL		B	15	5	33,3	5	3	60

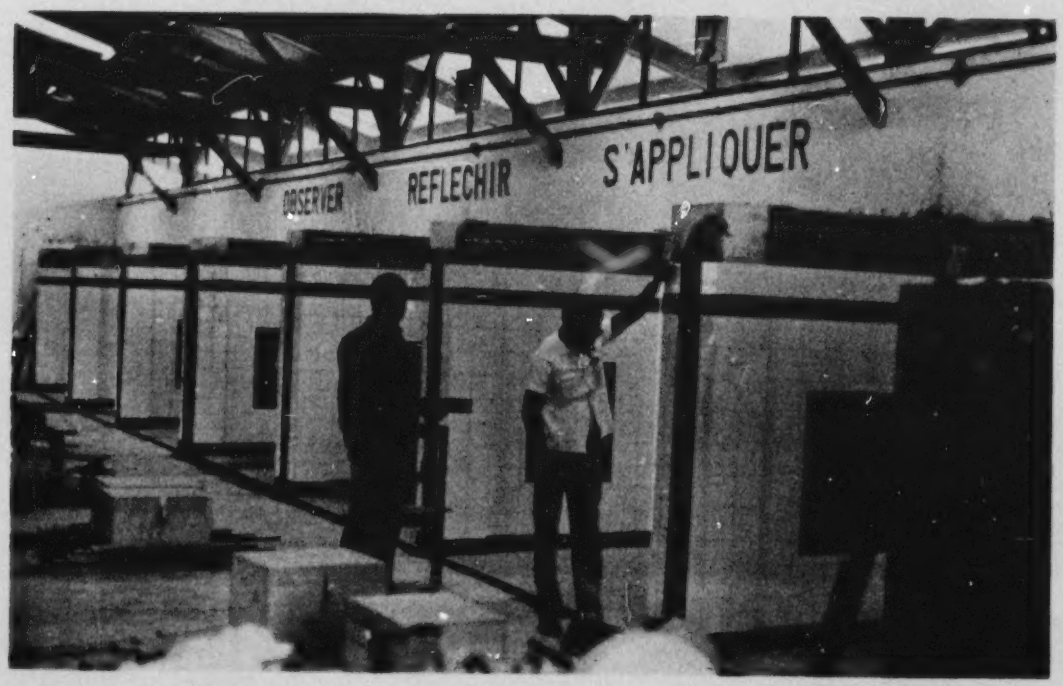
Brevet d'Enseignement Commercial (BEC)

Options	Institutions	Sex	Presented	Passed	%	Presented	Passed	%
Bookkeeping	Lycée Technique	B	10	3	30	–	–	–
		G	–	–	–	1	1	100
Secretarial Training	Lycée Technique	G	4	1	25	2	1	50
TOTAL		B	10	3	30	–	–	–
		G	4	1	25	3	2	66,6

Source: Statistical Yearbook 1967-1968



Entrance to the rapid vocational training Center - Bangui



Tilework - Rapid vocational training Center - Bangui

REPUBLIC OF CHAD

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I

INVENTORY OF FACILITIES FOR TECHNICAL EDUCATION AND VOCATIONAL TRAINING IN CHAD

A. Institutions and courses administered by the Ministry of National Education and Culture

A1 & A2. Institutions providing long-term (2nd cycle) and short-term (1st cycle or CAP diploma) technical education

a) Industrial Technical Lycée at Fort-Archambault, and the Technical Education School Annex.

b) Commercial Technical Lycée at Fort-Lamy.

A3. Para-industrial and handicrafts training

— Nine apprenticeship centers throughout the country.

— P.M.: the Arts & Crafts Training Center at Fort-Archambault.

A4. Training for women (homemaking and dressmaking)

2. Six advanced training centers for women, 2 of them at Fort-Lamy, 1 at Laï, 1 at Mongo, 1 at Doba and 1 at Koumra.

B. Institutions administered by the Ministry of Labor

B1. The Vocational and Advanced Training Center (CFPP)

C. Institutions administered by other ministries

C1. National Public Works School at Fort-Lamy, under the supervision of the Ministry of Public Works.

C2. National Telecommunications School at Fort-Archambault.

D. Vocational training provided by private enterprise

D1. Training centers of public or private companies with head offices outside Chad.

D2. Training provided by Chad companies in Chad.

E. Training provided within the framework of bilateral and multilateral foreign aid

E1. Training center for rural handicrafts at Fort-Archambault.

A. INSTITUTIONS AND COURSES ADMINISTERED BY THE MINISTRY OF EDUCATION

Introduction

The national education system

A Ministry of National Education and Culture, organized along French lines, was created in 1957. Its structure was reinforced in 1960, when Chad became independent.

It consists of the Minister, his technical advisors and his cabinet. The administrative part of the Ministry constitutes the general managing body for education.

For the organization chart of the Ministry: Annex I.

The educational system comprises *primary education*, which has six grades (preliminary courses 1 and 2, elementary courses 1 and 2, middle-level courses 1 and 2); *secondary education*, consisting of the first cycle (from the sixth to the third grade) and the second cycle (second, first and final grades).

The general education centers (CEG) supply the first cycle of secondary education, while the general and technical Lycées cover both cycles (Annex II).

Private education is almost non-existent (see statistical summary below of education in Chad).

Public education is free; resident students are entitled to full board.

Vocational training Center - F.T. Lamy

EDUCATION IN CHAD – 1967-68

Statistical summary

Type of education	No. of institutions	No. of courses	Number of students			
			in Chad		in other countries	
			B	G	B	G
Pre-school education						
public	2	6	181	109	–	–
private	10	14	353	321	–	–
Primary education						
public	634	2 302	127 074	30 183	–	–
private	106	...	13 962	7 480		
Secondary education						
C.E.G. 1st cycle						
public	18	133	4 015	185		
private	2	6	132	45		
Lycées 1 st cycle						
public	5	76	2 785	162		
private	2	8	136	126		
Lycées second cycle						
public	–	25	548	56		
private	–	2	30	2		
Normal education						
public	4	25	617	49		
private	–	–	–	–		
Technical education						
Public C.E.T.		11	229	9		
Public Lycées	2	4	65	2		
Specialized education	7	–	418	4	233	7
Higher education	–	–	–	–	121	–
Pre-school education	12	20	534	430		
Primary education	740	–	141 036	37 663		
Secondary genl. education	27	250	7 646	516		
Normal education	4	25	617	49		
Technical & specialized education.	7	–	712	15	233	7
Higher education	–	–	–	–	121	–

Source : Statistical yearbook 1967-68

A.1. & A.2. Institutions providing long-term (2nd cycle) and short-term (1st cycle and CAP) Technical Education

a) The Industrial Technical Lycée at Fort-Archambault

This was created in 1966 by merging the former Technical School at Fort-Lamy and the Technical Lycée at Fort-Archambault. More accurately, the former Technical Lycée was a kind of CEG, going from the 6th to the 2nd grades, which also provided somewhat limited training for fitters followed by a course for automobile mechanics.

The present Industrial Technical Lycée provides technical training at two levels :

— at the first level, recruitment takes place by examination among students completing the 5th grades of the Lycées and CEGs. After three years' study, they take the CAP diploma in the following subjects :

general mechanics, electrical installations, automobile mechanics maonry, carpentry-cabinet-making.

The training is thus for skilled workers.

— at the second level, the students are recruited after the 3nd grade of the Lycées and CEGs up to the technician baccalauréat. There is no preparation for the baccalauréat E, former choice of "mathematics and technology".

All the programs and the examinations for diplomas, etc., are based on the French system. All the students are resident, and almost all are Chad nationals.

The number of hours of instruction varies according to the courses ; between 36 and 39 hours per week, although the official regulations fix the timetable at 30 hours per week.

ENROLLMENT IN 1968-1969

	No. of courses	No. of students
Short-term training		
1st yr CAP	1	38
2nd yr CAP	1	29
3rd yr CAP	1	30
Long-term training		
2nd T.T.	1	11
1st T.I.	1	5
Final T.I.	1	4

A basic reform of technical education is in the process of taking place. A joint mission from UNESCO and the French Secretariat of State for Cooperation, working within the UNESCO/World Bank program, has drawn up reports which bear directly on this problem.

b) Commercial Technical Lycée at Fort-Lamy

This institution provides training at two different levels:

— at the first level, recruitment is by competitive examination among students completing the 5th grade in the country's Lycées and CEGs. After three years' study they take the CAP diploma in one of the 3 occupations: office employee, assistant bookkeeper, and stenographer-typist.

— at the second level, recruitment is from the students of the Lycées and CEGs, after the 3rd grade and who want to study economics. After a first year of studies, called second A (B), they may opt either for the Baccalauréat «B» or for the Baccalauréat de Technicien (B.Tn) (Serie G1 and G2). The total period of this second cycle, therefore, is 3 years, as for all the Baccalauréat.

ENROLLMENT IN 1969-1970

	No. of classes	No. of students
Short-term training		
1st year CAP	3	90
2nd year CAP	2	47
3rd year CAP	3	75
Long-term training		
Second	3	79
1st B	1	29
1st G1	1	20
1st G2	1	14
Final B	1	10
Final G1	1	24
Final G2	1	25

The equipment is minimal. Two classrooms are equipped with Japy typewriters. There are none of the various types of filing cabinets, nor modern equipment such as telephones, intercoms, switchboard, etc.

There is no doubt that students who have completed their courses are not thoroughly prepared to work effectively in an office.

A3. Para-industrial and handicraft training

Apprenticeship centers

These were originally pre-apprenticeship centers; Decree No. 1517/EN of May 26, 1952, gave them the title of apprenticeship centers. Several modifications have been made since, particularly the abolition of grants for apprentices. The reform of this system is under review.

Purpose:

The centers, nine in number, were created to provide training in manual work (rural workers and artisans) for adolescents who had finished their primary education without having obtained their CEP, or who were too old to compete in the examination for entry to the 6th grade.

The training is intended to give them the skills of a specialized manual worker, able to make simple objects and furniture and to do repairs and maintenance in a village. These centers enable a certain number of young men to settle in rural areas.

Subjects taught, length of training and qualification:

Carpentry is taught in all the centers, masonry in two, bookbinding in one.

The official length of the courses is 3 years. But this varies in practice from 2 to 3 years, depending on the center and the subject. The students receive a certificate of completed apprenticeship.

Program:

This comprises approximately:

15 hours of shop work per week,

15 hours per week devoted to general education, industrial draftsmanship and vocational technology.

ENROLLMENT FOR 1966-1967
(Data for 1967-1968 are not available)

Town	1st year	2nd year	3rd year	Total
1. ABECHE	13	8		21
2. BONGOR	*	*	*	15
3. DOBA	3	9	10	22
4. FORT-LAMY	11			
5. KOUMRA	15	25		40
6. LARGEAU	*	*	*	19
7. MAO	16			16
8. MOUNDOU	10	9	5	24
9. PALA	20			20
TOTAL				199

* Not available

Source : School statistics 1966/1967, Fort-Lamy

Average enrollment per center : 18
Age of students : from 10 to 22 and above.

DISTRIBUTION OF STUDENTS BY SUBJECT 1966/67

Town	Carpentry	Masonry	Bookbinding	Total
1. ABECHE	6	10	5	21
2. BONGOR	7	8	–	15
3. DOBA	22	–	–	22
4. FORT-LAMY	11	–	–	11
5. KOUMRA	40	–	–	40
6. LARGEAU	–	19	–	19
7. MAO	16	–	–	16
8. MOUNDOU	24	–	–	24
9. PALA	20	–	–	20

Source : School Statistic 1966/1967, Fort-Lamy

Teaching personnel

The centers employ 13 instructors. These instructors hold a CAP diploma, are highly qualified, devoted to their work, but without any training.

Ratio of students to teachers: 15.4 to 1.

Remark

The training presently provided in the apprenticeship centers is the subject of considerable discussion by the various Chadian authorities and by the expatriate experts. The question is being reviewed in the Ministry of National Education, and also in the National Education Planning Center. Recommendations for reform have been made by several experts, notably those of ORT and of the BIRD/UNESCO cooperation program.

A4. Advanced Training Centers for women

There are six of these, two of which were visited by the ORT experts at Fort-Lamy. The students are adult women who take courses in reading and writing, home economics and child care.

Attendance at these courses fluctuates to such an extent that it was difficult to obtain accurate enrollment (approximately 500). Their importance for this survey is secondary, although their function of enlightenment and modification of attitudes appears to be quite effective.

B. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF LABOR

The Vocational and Advanced Training Center (CFPP)

Created in 1959, with the name «Center for Accelerated Vocational Training» (CFPR), this Center has expanded its activities since 1968, date of arrival of the present Director, Mr Simon.

The chief purposes of the Center are to provide accelerated training for certain trades, to retrain workers for new jobs, or to enable them to acquire a higher standard of skills.

The training given is exclusively for adults over the age of 18, who must hold the CEP diploma.

The training methods are based on those of the AFPA.

The number of students registered and graduated in recent years is given in the following table:

	1959/60	1960/61	1961/62	1962/63	1963/64	1964/65	TOTAL
Mechanics							
No. of students	12	12	14	15	10	Perf.	63
Graduates	7	6	9	10	10	"	42
Repeaters	5	5	3	4	0	"	17
Dropouts	0	1	2	1	0	"	4
Electricity							
No. of students			15	12	17	11	55
Graduates			3	7	0	4	14
Repeaters			7	5	13	7	32
Dropouts			5	0	4	0	9
Sheet-metal work							
No. of students		15	15	13	15	13	71
Graduates		5	5	8	12	6	36
Repeaters		6	4	1	3	7	21
Dropouts		4	6	4	0	0	14
Radio-electricity							
No. of students			25	18	20		63
Graduates			11	3	13		27
Repeaters			14	3	5		22
Dropouts			0	12	2		14
Total							
No. of students	12	27	69	58	62	24	252
Graduates	7	11	28	28	35	10	119
Repeaters	5	11	28	13	21	14	92
Dropouts	0	5	13	17	6	0	41
Success in entrance examination	58%	50%	50%	68%	62%	42%	
Success in entrance examination Students passing	58%	41%	40%	48%	56%	42%	

	% Passing entrance exam	% Passing final exam
Mechanics	71	66,6
Electricity	30,5	25,4
Sheet-metal work	63	51,3
Radio-electricity	55,1	42,8
Total	56	47

Source : Vocational and Advanced Training Center : from documents given to the ORT expert, Mr Aleinick, in 1966. These figures were not able to be confirmed in June 1969 by Mr. Simon, Director of the C.F.P.P.

In 1968, 7 vocational training sections were started :

— Machine-tools : 10 trainees
— Sanitary installations : 16 trainees
— Assistant bookkeepers : 16 trainees
— Fitters : 20 trainees
— Masons : 21 trainees
— Stenographers-Typists : 24 trainees
— Secretaries : 22 trainees

Total : 129 trainees

Also started were :

— 2 advanced training and evening courses for commercial employees

— 2 introductory courses in auto-mechanics for students of the ENA.

The Chamber of Commerce provides a partial accelerated commercial training course from BEPC level in the following occupations :

— Stenographer-Typists

— Office employees

— Assistant bookkeepers

Close relationship exists between the Center and private enterprise, which may partly explain the high rate of continuance in the various occupations, as shown in the table below :

Former students	Mechanics 1960-1964	Electricity 1962-1965	Sheet-metal work 1961-1965
1. Employed in their occupation	40	40	35
2. Retraining or repeating	10	10	15
3. Left their occupation	13	5	21
4. Total number of students trained	63	55	71
5. Average monthly earnings	F 16 876	12 798	14 312

Source : Report EFM/13 UNESCO.

The CFPP, however, raises as many problems as it solves. The Chadian authorities have asked for the extension of the period of training. But the Center might then be «competing» with the existing technical education establishments. Some employers were not convinced of the effectiveness of accelerated training. In any case, in deciding the way in which this Center ought to be developed, it should be remembered that originally it was created to fill a gap. It could play an important role in providing advanced accelerated training for adults already employed and in short-term vocational training.

A study of the needs was made by Mr Simon (Director of the CFPP), and socio-professional advisor. The study is being applied in accordance with the consultative commission of vocational training and with the Commission of

Vocational Training of the Chamber of Commerce and Industry of Chad. When the 1970 budget was presented, the employers approved the utility and effectiveness of the C.F.P.P.

C. INSTITUTIONS ADMINISTERED BY OTHER MINISTRIES

C.1. National Public Works School at Fort-Lamy

This School was created by the law of January 15, 1965, and placed under the the supervision of the Ministry of Public Works. In September 1966, it received its new title, the old one being the National School of Technical Assistants. The students are recruited exclusively by competitive examination amongst holders of the BEPC diploma.

Created to meet a regional demand for civil engineering technicians, the School gives 4-years training for technicians in the public sector, in the following subjects :

- topography (surveying)
- public works - construction
- public works - rural engineering.

The College does not train technicians for the private sector, but its statutes authorize private employers to employ its graduates on condition that they reimburse the costs of training.

The first 2 years are common to all the courses, and cover general studies.

In the third year, there is a choice between public works and topography.

In the 4th year, there is a further choice in the public works section, between construction and rural engineering.

TREND OF ENROLLMENT

	1st year		2nd year		3rd year		4th year		Graduated	
School year	C	F	C	F	C	F	C	F	C	F
1964-65	24	6	–	–	–	–	–	–		
1965-66	23	7	22	–	–	–	–	–		
1966-67	13	6	11	7	8	3	–	–		
1967-68	19	6	9	7	6	8	8	2		
1968-69	16	8		7	6	9	6	9	7	1
1969-70	17	11		9	14	7	3	4	5	8

F : Foreigners, mainly from the CAR

The value of the equipment, at the time of procurement, was about 12 million CFA francs. It is well adapted to the needs of the School, but a few additional items are still required.

Practical work in the laboratories and in the field constitute an essential part of the programs. The means and methods used are such as to train good technicians in the various trades taught.

The full-time staff of the School are supplied by the French Fund for Aid and Cooperation (FAC). There is a director, an assistant director and a number of technical assistants.

The 25 part-time staff members come mainly from the various branches of the public sector (public works, rural engineering, land survey, justice, lycée). The employment of part-time staff has the advantage of permitting a type of training which is close to actual working conditions, since the students already have a contract with their future employers.

According to the School representative, the number of technicians that Chad can absorb in the trades taught is roughly between 20 and 35. If it is assumed that the employment capacity in Niger and in the Central African Republic (both of them are interested) is of the same order, then the total requirement might be assessed at about a hundred technicians. These needs could be met in 8 to 10 years. Amongst the graduates of the first graduating class, 2 Chadians were admitted as student-engineers at the National Institute of Construction and Public Works, and from the second graduating class, 2 Chadian and Central Africans were admitted to the National Superior School of Public Works.

C.2. The National Telecommunications School at Fort-Archambault

Opened in 1963, the School changed its status in 1967 and became a public institution, governed by a Board of Directors composed of the Director of the Postal Services and representatives of the Ministries of the Plan, of National Education and Culture, of Finance, and of National Defense.

The School trains technical specialists in telecommunications and, as demand in the private sector is slight in this field, the problem of training of technicians in this sector has not arisen. This School actually specializes in training radio operators.

The courses last 3 years. At the end, the students receive the diploma of the School and are integrated into the postal and telecommunications services with the rank of supervisors of postal and telegraph services. Students are admitted on the basis of a competitive examination, and must have the BEPC diploma.

TREND OF ENROLLMENT

		Numbers of Students		Diplomas obtained
School year	1st year	2nd year	3rd year	
1963-64	14	–	–	
1964-65	10	14	–	
1965-66	8	10	14	13
1966-67	10	8	10	9
1967-68	9*	10**	9***	9

** of which 4 foreigners ** of which 2 foreigners *** all foreigners*

As can be seen, this school is already regional in character.

The teaching staff is composed of 2 experts from the International Telecommunications Union (ITU), whose services are supplied within the framework of UNDP. Appointments as assistant instructors are held by former students of the school.

The buildings, which are old, have been adequately renovated. Their capacity is 45 students, in full-time residence. The equipment is comprehensive and of good quality.

The training is such that drop-outs during the courses and failures in the final examinations are almost non-existent. These results are remarkable. There follows an excerpt from the UNESCO report, (EFM/13), which sets forth the primary reasons which explain the success of the School:

> «The close relationships which exist between students and teachers, thanks to which they receive instruction and counselling adapted to their individual needs.
>
> The fact that the teachers are not obliged to observe weekly timetables of fixed classes, which means that they are available to the students at any time that they may be need ed.
>
> The flexibility of the curricula, which allows the students the time that they themselves need in order to understand the matter studied.
>
> The use of teaching methods which call more for intelligence than memory.
>
> The considerable amount of time given to shop work, which avoids an artificial distinction being made between manual and intellectual application.
>
> The confidence placed in the students and the corresponding responsibilities given to them, as witnessed by the fact that they have unsupervised access to laboratories containing expensive equipment.

Personal qualities indispensable to technicians who will, in their future occupations, be called on to work admost or entirely without supervision, and on their own initiative are developed in this way».

D. VOCATIONAL TRAINING PROVIDED BY PRIVATE ENTERPRISE

Either because of the shortage of skilled employees, owing to the absence of technical training in the trades required by the employers, or because the employers are barred from engaging persons with certain kinds of training (as already noted), several companies have decided to provide training or advanced courses for their own employees.

Considerable changes have taken place in recent years, in particular the disappearance of certain courses. The situation at the time of the survey, as far as could be ascertained, was as follows :

D1. Training centers run by public or private companies with head offices outside Chad

a) UAT - Air Afrique

The training of commercial and administrative employees is carried out at Abidjan in a course lasting approximately 5 to 6 weeks. General and specialized training is given to all Chadian students recruited, on an unlimited basis, but obviously on condition that their abilities have been tested by the employer and by the Psycho-Technical Institute.

The training of management personnel - (a training period for the commercial and administrative employees of Air Afrique) takes place in Paris (Le Bourget). The general training is mainly psychological, while the technical training specializes in : traffic, counter work, and accounting. The course lasts about two weeks, full time, and the number of students depends, naturally, on the number qualifying at Abidjan.

b) SHELL

These are training courses lasting for 8 days to 3 months, depending on the subject and the needs of the company. They are given at Brazzaville.

c) MAFRAM (Brossette and Valor Company)

At the request of the Chadian Company, employees at a level equal to that of the BEPC diploma take a 4-month training course at the «Maison de l'Amitié Franco-Africaine et Malgache» at Lentilly (Rhône), France.

d) The S.C.O.A. at Fort-Lamy

Like all the establishments of this company, the S.C.O.A. in Chad attempted to use the school which the TECNOA organized at Cotonou :
2 Chadians were sent there, but only one completed the course.

D2. Training provided by Chadian Companies in Chad

a) The Chadian Water and Electricity Company (STEE)

The ORT team was not able to visit this center, and the information below was taken from the report of an earlier mission.

The company employs 160 workers, of whom about 60 are technicians and skilled workers.

For the past 3 years it has a center at Fort Lamy for vocational training and advanced training courses, which is a miniature of the school at Gurcy-le-Châtel, in France.

The purposes of this center are:

— training of network electricians
— training of shift leaders
— training of power station supervisors.

The chief problem facing the management is that about half the employees are not only illiterate but do not speak any French. Even those with a higher standard of education cannot be sent directly to Gurcy-le-Châtel. There is thus a clear requirement to combine technical literacy with an increase in vocational knowledge.

The courses comprise:

— 6 months' technical introduction
— on-the-job training for electrical installation technicians in a year or 18 months;
— specialized training (electricians, mechanics, etc.), a period that had not yet been begun in 1968.

For the moment, only the Fort-Lamy Center has these courses, which will later be extended to other electrified areas: Abéché, Moundou and Fort-Archambault.

Almost 40 technicians are following these courses.

b) COTONFRAN

This company groups 22 plants and 2 repair shops and other establishments.

The training of administrative employees and purchasing agents for COTONFRAN has been undertaken at Fort-Archambault with students at the BEPC level, after psycho-technical tests. The period of training is 3 months of theory plus an on-the-job training period from June 15 to September 15. COTONFRAN has printed its own technical courses, and instruction is based on these manuals. The company admits to each training course, a number of trainees in response to felt needs. There is still great difficulty in recruiting young men for the bush services.

Because of the urgent need to give advanced training to existing employees and because of the lack of recruitment by schools or training centers, a vocational training section was created at Bongor. Its purpose is to provide advanced training courses for those already employed and to train new employees. Recruitment for new students is done at the age of 15. Training lasts from 3 to 4 years according to the trade studied:

general mechanics with welding and automobile mechanics, all of which is adapted to the needs of factories and workshops.

12 students are presently in the section at Bongor.

c) NSCKN (New Commercial Company of Kouilou-Niari)

This company no longer provides any training. After having spent 10 million CFA francs in 2 years for training employees, Mr Maillard, the director, abandoned the commercial training, as only one trained employee remained, all the others having succeeded in getting jobs in administration. The ORT experts met with Mr Maillard, who is also President of UNITCHAD (the employers' association), and Economic and Social Advisor to the Chad Government, and he explained why he had abandoned the training project . On the other hand, he was encouraging about the training provided by the Chamber of Commerce, though making it clear that he regarded the accelerated vocational training as inadequate.

d) Banking Technical Training Center at Fort-Lamy

Counterpart of the Paris Center, it provides training at 2 levels :

— Preparation for CAP diploma for bank employees ; an evening course lasting 3 years, 6 hours per week ;

— Preparation for Brevet Professionnel d'Employé de Banque (second degree training), by correspondence.

Method of recruitment : volunteer employees capable of following the training and recommended by their employer.

The costs of this training are borne entirely by the banks, including the payment of overtime wages to the employees. Despite this, attendance is poor and results are disappointing. Three teachers are in charge of this training, and at the moment an effort is being made to adapt the program to African requirements.

Numbers :	1st year CAP	21
	2nd year CAP	10
	3rd year CAP	26

Examination results : 6 candidates, only 3 passed.

For the Brevet Professionnel, 6 students registered, only 4 of whom are following the correspondence course regularly. There is no organized examination as yet.

It is apparent from the above table that the capacity of 30 students per class is not yet fully utilized. The proportion of drop-outs is high. The results obtained in the first years demonstrate the deficiency in general education received by students before their admission.

The School is in a new, modern and well-constructed building, which has a two-story administrative wing (offices of director, deputy director, secretariat, records, students' library, geology and topography sections), with a floor surface of 372 sq.meters, and a three-story wing containing classrooms and laboratories, with a floor area of 1009 sq. meters. In addition to six classrooms, this second wing houses a hydraulics laboratory, and a chemistry and physics laboratory.

E. TRAINING PROVIDED WITHIN THE FRAMEWORK OF BILATERAL AND MULTILATERAL FOREIGN AID

E1. Training center for rual handicrafts at Fort-Archambault

The decision to establish this center was made in 1962, and it was opened in May 1963, with financial aid and the help of one expert from ILO.

Purpose: to train rural mechanics (cartwrights, blacksmiths), who cou'd then know how fo carry out simple work with wood and iron, in order to meet the demand for repairs and maintenance of animal-drawn farm equipment. The zone of influence of this center extends over the whole of the cotton-growing region (5 provinces in the south of Chad), where mechanized agricultural utilization is developing rapidly.

Origin of students: in collaboration with the village authorities, students are drawn from among young farmers of 20 to 30 years of age in areas under going modernization. These young men have promised to return to their villages after training.

Type and duration of courses: Training lasts for 9 months and is divided into two parts:

— 6 months in the workshop (FPA method). The practical training is supplemented by training in arithmetic, so that the artisan is able to keep his accounts and ensure proper commercial management;

— 3 months in the field, where the students are taken by a workshop truck. These trucks stop in villages where the students come from and carry out work at the request of the local population.

— During their training, students receive free accommodation and food but no salary nor indemnity.

Number of trainees and results were as follows:

Up to 1968, 37 artisans were trained, of whom 34 are back in their villages carrying on their trade.

Precautions taken for resettling the artisans in the village

a) A study of figures has been made, with reference, on the one hand, to the minimum amount of equipment (ploughs, carts, yokes, bicycles, domestic furniture) to be made or repaired each year, and, on the other hand, to the level of income in cotton necessary to enable a village population to support a rural craftsman.

b) The Development Bank provides each trainee leaving the center with an establishment loan of 100,000 CFA francs, at 4 per cent interest, repayable in 3 years. In fact, these loans are frequently not reimbursed, the craftsmen tending to overlook this question.

Other activities of the Center:

In addition to the training described above, the Center has provided training for 12 trainees, either as rural handicrafts monitors, or as workshop monitors. The results are not very satisfactory.

Further development of this system:

A second, identical Center has been opened at Pala, in the south-west of the country.

II

EMPLOYMENT SITUATION AND TRAINING NEEDS

A. EMPLOYMENT SITUATION

1. In 1962, the active population was estimated at 1,400,000 persons, divided as follows:

   — 527,000 farmers
   — 444,000 settled cattle-breeders
   — 300,000 nomadic cattle-breeders
   — 64,000 artisans and traders
   — 45,000 wage-earners.

2. In 1958, a survey made by an inspector from the Ministry of Labor gave a total of 29,246 wage-earners, broken down as follows:

   approximately 17,000 unskilled laborers (3,000 of them on farms)
   8,921 white-collar workers
   5,488 blue-collar workers
   495 technicians and managers.

3. A census of the industrial enterprises existing in 1966 (power, construction and water companies) was carried out under the UDEAC program.

   In the *modern sector* the numbers of permanent employees appear to have developed as follows:

   1960 = 2,993
   1961 = 3,329
   1962 = 3,459
   1963 = 4,153
   1964 = 3,938
   1965 = 4,439
   1966 = 4,247

4. In 1965, a survey was made by Madame S. Bousquet, with the object of supplying basic information to provide the base for manpower and training planning. The following data were obtained:

   — structure of the labor force (Chadians and foreigners):
      — by sector of activity,
      — by level of qualification,
      — by trade;
   — previous employment trends;
   — foreseeable trends (new requirements for skilled workers);
   — training facilities currently in use or envisaged in the near future.

   The survey was also intended to propose a scale of needs with regard to training and advanced training, with as objective the "Chadization" and the development of certain sectors of activity.

The summary results of the study indicate:

	Sectors	Percentage of replies	Numbers employed 1963	1964	1965
1.	Services (hotels, cinemas, etc.)	(80%)	264	317	310
2.	Liberal professions (banking, insurance, medicine)	(70%)	223	245	250
3.	Transportation	(90%)	903	937	935
4.	Construction and Public Works	(75%)	1 721	1 222	929
5.	Industry	(90%)	2 348	2 240	2 137
6.	Commerce	(75%)	1 333	1 444	1 386
			6 792	6 404	5 647

This would indicate the following weighted balance for 1965:

1.	Services	388	
2.	Liberal professions	357	
3.	Transportation	1,040	4,655
4.	Construction and Public Works	1,240	for the industrial
5.	Industry	2,375	sector, extrapolated
6.	Commerce	7,248	

The table for jobs in the industrial sector broken down by occupational level for the year 1965 is:

Laborers and specialized laborers	2,009
Assistant manual workers	712
Semi-skilled workers, Grades 1, 2 and 3	1,416
Skilled workers 1 & 2, highly skilled workers	83
Heads of workshops, team leaders	98
Technicians	77
Management	43
TOTAL	4,438

It can be seen that the total is close to that of 4,655 permanent wage-earners in the industrial sector, and, especially, to the total of 4,439 given by the UDEAC survey for the same year. It may thus be assumed that there are some 4,500 wage-earners in the modern industrial sector.

5. Inquiry by the Ministry of Labor in September 1966

Numbers of employees by sector :

Sectors	Total	Skilled	Unskilled
Commerce	1 014	514	500
Misc. industries	827	457	370
Construction and Public Works	2 229	1 029	1 200
Transportation	460	160	300
Agriculture	5 212	1 712	3 500
Food industries	388	88	300
Hotel industry	212	182	30
Mining and quarrying	115	45	70
Banks and insurance	166	90	76
Public and industrial services	1 740	890	850
Totals	12 363	5 167	7 196

6. The number of employees, as supplied by the Family Allowance Fund, is given as 11,000.

In conclusion, it can be said that, apart from Madame Bousquet's survey, which remains the only document, constituting a scientific study (but containing certain weaknesses, which will be referred to later), it is possible only to guess at the true number of employees according to distribution by occupations and, within each occupation, by hierarchic level.

It should be noted that, of the 45,000 persons employed in on-agricultural activities, 29,000 are employees, 9,630 of them in the administrative services (according to the Budget figures for 1968). The labor force employed in the modern sector of the economy, at the end of 1967, was 14,500 (figures from the Employment Office). The other employees are engaged on a seasonal basis.

Distribution of employees
by main sectors of economic activity

Sector of economic activity	1961		1967	
	No. of employees	%	No. of employees	%
Agriculture	2 809	22	4 504	31
Industry	1 238	10	1 906	13
Construction	1 530	12	1 371	9,5
Transportation	1 050	8,3	953	6,5
Commerce	2 556	21	1 710	12
Services	3 375	26,7	4 086	28
TOTAL	12 558	100,0	14 530	100,0

Source : Employment Office Annual Reports, 1965, 1967, Republic of Chad.

Remarks :

The labor force in Chad includes a large number of foreigners :

Origin of workers employed in the modern sector

More significant is the fact that the ratio of foreign workers is "directly proportional" to their level of qualifications, as shown by the following table :

	1966	1967	
Foreigners	2 237	1 880	
Chadians	12 635	12 650	
TOTAL	14 872	14 530	

Source : information supplied by the Employment Office, Ministry of Labor.

OCCUPATIONAL LEVEL

				en % of total		
	Chadians	Foreigners	Total	Chadians	Foreigners	Total
Directors and senior managers	40	317	357	11	89	100
Middle-level managers	115	257	372	31	69	100
Office employees	1 939	617	2 556	74	26	100
Skilled workers	984	157	1 141	86	14	100
Unskilled workers	9 552	532	10 084	95	5	100
TOTAL	12 650	1 880	14 530	88	12	100

Source : According to information supplied by the Employment Office, Ministry of Labor.

B. Requirements in technical workers

The Bousquet survey was used as the basis for estimating the training requirements for the five years of the 1966-1970 Plan for the Republic of Chad. The survey clearly shows the most urgent needs in training and advanced training courses, as follows :

1) Skilled and semi-skilled personnel :

a) Tertiary sector

— Typists
— Shipping and Customs clerks
— Bookkeepers
— Secretaries
— Store managers and sales staff

b) Manual and technical work

— Mechanics (general mechanics, auto mechanics)
— Sheet-metal workers/welders
— Bodywork technicians
— Diesel mechanics
— Refrigeration technicians
— Electricians
— Hotel staff
— Auto fitters/Repair technicians
— Plumbing fitters
— Carpenters/Cabinet makers
— Stonemasons
— Rodsman

Parallel to each of these training sections, an advanced training section should be envisaged.

In Section III of the Five-Year Plan, the requirements set down for the period 1966-1970 (by training level initially needed) are as follows:

Occupation level	Requirements given
CAP industrial	850
BEI	120
CAP commercial	350
Brevet commercial	200

The annual goals established by the Plan, from 1969, are:

95 CAP industrials (auto mechanics, general mechanics, electricity, masonry, carpenrty)

27 BEI (auto mechanics, general mechanics, industrial draftsmanship, electro-mechanics)

45 CAP commercial (office employees, assistant bookkeepers)

30 BEC or BSEC (bookkeeping, secretarial work)

It is extremely doubtful that these goals will be attained during this period.

Following is an excerpt from a pertinent official source:

«If the needs of the Plan are to be met solely in respect of technical industrial training, the number of recruits in 1969 and 1970 would have to be 164 at the Technical Lycée level and 478 at the technical school level. Such an increase in enrollment is neither possible nor desirable. It is impossible because of the inadequate reception facilities and rudimentary equipment of the Industrial Technical Lycée at Fort-Archambault and undesirable because of the difficulties of finding employment after training".

Table – Training and employment of students with industrial technical training

TRADES	1966				1967			
	N	T	D	P	N	T	D	P
General mechanics	50	0	50	–	45	0	45	–
Auto mechanics	20	2	18	–	30	6	24	–
Masons	10	2	8	2	10	5	5	5
Carpenters	10	0	10	–	15	0	15	–
Electricians	12	2	10	2	15	1	14	1
Totals	102	6	96	5	115	12	103	7

N = Needs
T = Trained students (with diploma)
D = Theoretical deficit
P = Students employed

The table below shows the requirements formulated by the Plan, the numbers of students trained at the Technical Lycée in 1966 and 1967, the theoretical deficit in relation to the stated needs and, finally, the number of students employed at the end of their training period.

The rate of employment in relation to the number of students trained is 66.6 per cent, but the rate of employment in relation to the stated needs would be only about 5.6 per cent.

The explanation of this discrepancy lies in over-estimation of the needs. Apparently, the analyst of the labor market took as vacancies those posts allotted to employees trained on-the-job and who had not reached the level of training initially required. In fact, these theoretical jobs have never come on to the labor market.

C. Contacts with employers

It should therefore be borne in mind that the figures for the goals not only exaggerate the potential absorption capacity of the labor market, but are incapable of achievement for financial reasons. In 1966-67, not one techincian's diploma was awarded. According to Mr Rossignol (report of mission to Chad, May 30-June 10, 1967), there were about 40 jobs for technicians and 80 for skilled workers still to be filled.

Persons contacted :

Mr Maillard, General Director of the NSCKN, President of UNITCHAD
Mr Dejoux, Director of the Chamber of Commerce
Mr Pradel, Director of the BIAO (bank)
Mr Simon, Director of the CFPP
Mr Abtour, Director of the Hotel "La Tchadienne"
The ORT expert on a previous mission met with :
Mr Wintenberger, Director of Colas Routiere
Mr Guerini, Director of SETUBA.

The employers stressed the shortage of electricians, refrigeration technicians fitters, turners and diesel mechanics in particular. Most operating firms are very small and in view of the narrowness of the market, this leads to the following paradoxical situation : a few firms operating in several fields — yet specialization is not desirable in a small company.

III

CONCLUSIONS AND RECOMMENDATIONS

R1. In the second part, "Employment situation and training needs", it can be seen to what extent this area is subject to estimates, approximations and errors.

A scientific survey is necessary, carried out by a team comprising technicians and training staff. During the Bangui conference, ORT learned that this survey had already been undertaken. Those responsible for this effort should be encouraged, since these basic data are necessary for any proposal to reform technical education and vocational training.

R2. In the commercial sphere, a few existing large companies may suffice for the export and import trade of the country, but all of the internal commerce and distribution must be structured and developed. The first thing to be done would be to define the commercial networks and to train Chadians for internal trade. A study mission is recommended.

R3. As already mentioned, the reorganization and reshaping of the Technical and Industrial Lycée at Fort-Archambault has reached an advanced stage and its financing by the IBRD is almost certain. Readers are recommended to read the report of UNESCO mission EFM/13 of June 1968. Nevertheless, the Chad authorities are urged to reconsider this reform in the light of the regional projects which will result from the Bangui conference of October 1969.

R4. While the buildings of the Technical and Commercial Lycée at Fort-Lamy may be suitable, the training programs and the teaching methods are poorly adapted to the goal in view. There are a few equipment problems, but these are minor compared with the didactic and pedagogic problems of this school.

R5. A previous ORT report has already drawn attention to the usefulness of manual training in primary education. During the study mission, the ORT technicians were shown several projects relating to this subject (orientation courses from the 4th to the 6th grade, introduction of primary school teachers to educational manual and agricultural work). These initiatives should be encouraged. Only difficulties in obtaining financing hinder the effective introduction of this new system in the Republic of Chad.

R6. The apprenticeship centers should be reviewed and renovated, taking into account the following factors:

- the quality of candidates when recruited,
- new pedagogical methods,
- courses offered and prospects for employment.

R7. The regional character of the National School for Public Works should be intensified. This is not difficult, since the school's capacity easily permits the admission of students from other countries of central Africa.

R8. The creation of the "Commission Training and Employment" must be accelerated so that it can begin work without delay. The country needs this commission

in order to carry out the following recommendations:

1) to find as wide a basis as possible for training, in order to facilitate reorientation and to provide the different specialized workers required by a narrow labor market;

2) to decide, after studying the question, whether it would not be better to limit the number of trainees and to concentrate more on the quality of their training;

3) to develop the persons already employed at every level.

By assuming additional tasks such as analysis and job definition and by being allotted an annual budget, this committee would become a national office for vocational training (ONFP).

R9. **Tourism and the hotel industry**

The first Five-Year Plan, for 1966-1970, was unable to define the requirements in hotel staff. This is quite understandable, since the operating methods of the new chain of hotels were not defined at that time.

The Ministry of the Plan confirmed that the investments envisaged in the first Plan have in fact been made, with the exception of the hotel in the Douguia, region, which is still in the planning stage. But the problem of operating chains of hotels, now built or being built, remains untouched. While it may be possible that financing be found for the development of these tourist regions, there are still absolutely no plans for the systematic training of staff.

The problem of training hotel staff comprises both the training of new employees and the advanced training, if not the initial training, in many cases, of employees already engaged.

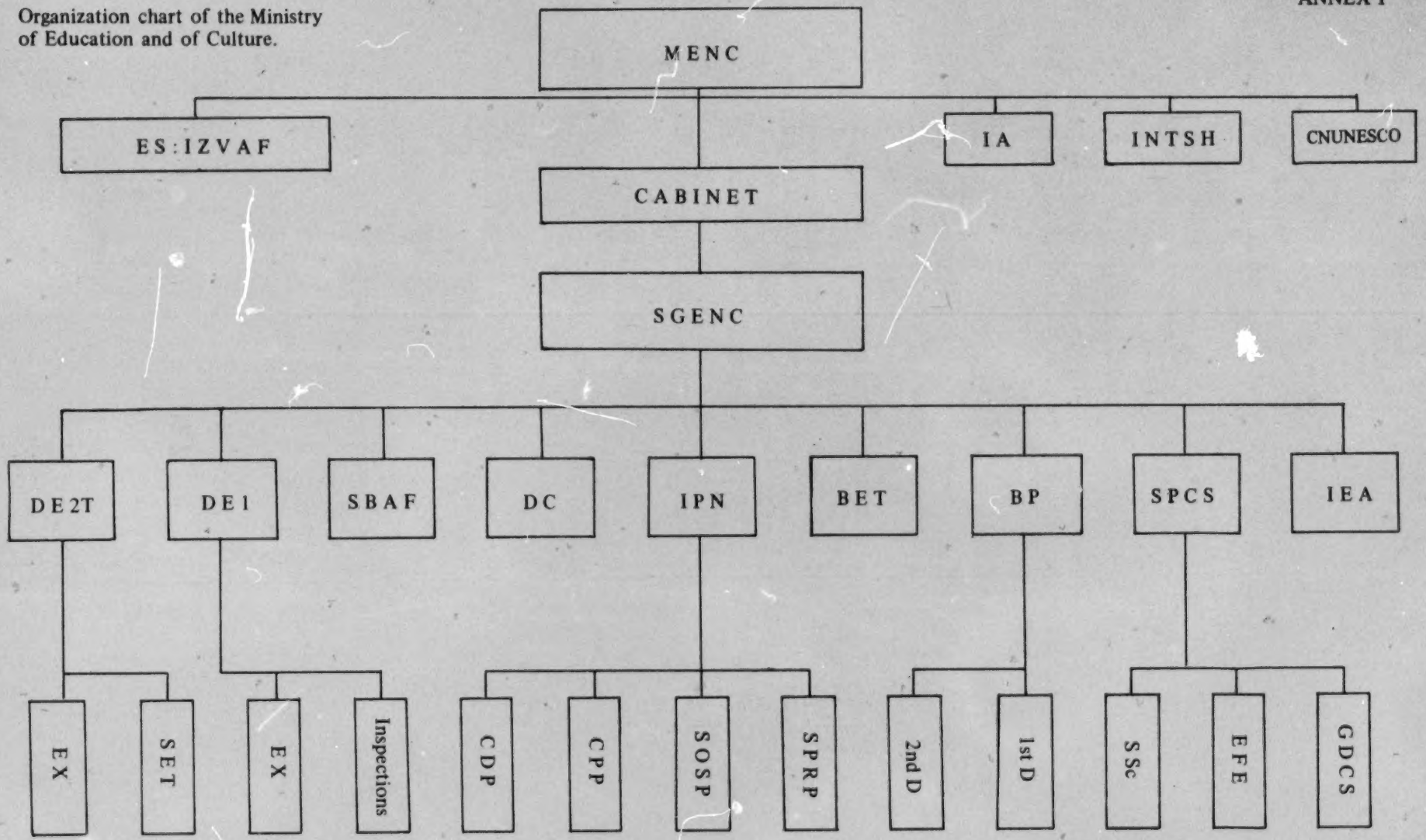
The director of the Hotel "La Tchadienne", Mr Abtour, is categorical: "up to now", he said, "nothing effective has been done with regard to hotel training". On-the-job training was tried with young men of CEP or Brevet level, but the results were not satisfactory because of the students' lack of general education.

Two-year training courses for holders of the BEPC at the Hotel School at Nice did not give satisfactory results. Moreover, such a course interests very few Chadians, since the holder of a BEPC has aspirations far above the possibilities of the hotel industry. Yet the hotels in Chad have 358 beds, 108 of them in "La Tchadienne".

The immediate needs are for 60 hotel employees (kitchen, restaurant and reception).

ANNEX I

Organization chart of the Ministry of Education and of Culture.



See key to abbreviations following page

CHAD

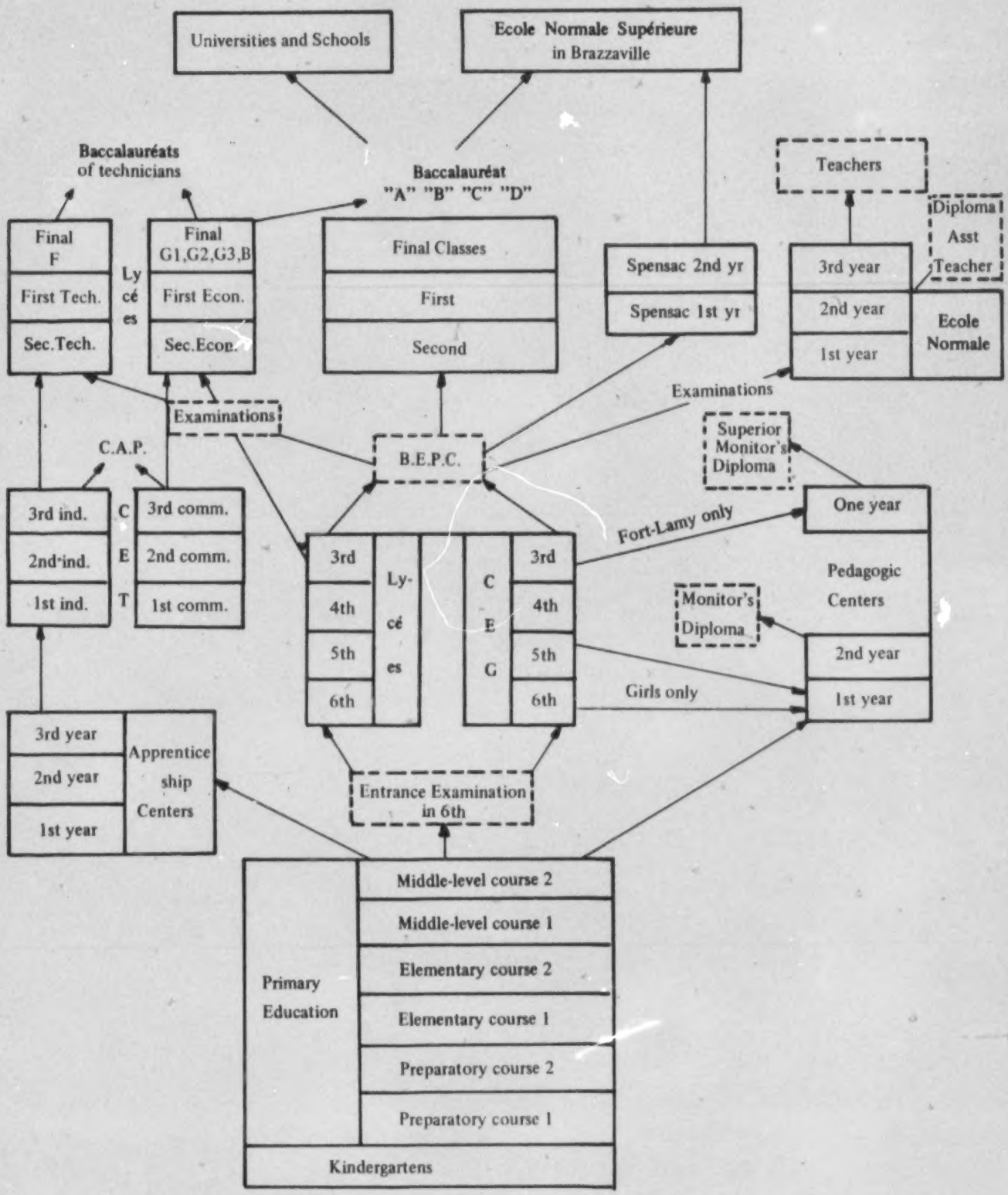
ANNEX I — Organization of the Ministry of National and Education of Culture.

Key to abbreviations

MENC	: Ministère de l'Education Nationale et de la Culture
ES	: Enseignement supérieur
IZVAF	: Institut d'Enseignement Zootechnique et Vétérinaire d'Afrique Centrale
I.A.	: Inspection Académique
I.N.T.S.H.	: Institut National Tchadien des Sciences Humaines
CNUNESCO	: Commission National de l'UNESCO
SGENC	: Secrétariat Général de l'Education Nationale et de la Culture
D.E.2.T.	: Direction de l'Enseignement du Second Degré et de l'Enseignement Technique
D.E.I.	: Direction de l'Enseignement du Premier Degré
SBAF	: Service du budget et des affaires financières
DC	: Direction de la Culture
IPN	: Institut Pédagogique National
BET	: Bureau d'étude et des textes
BP	: Bureau du personnel
SPCS	: Service de la planification et de la carte scolaire
IEA	: Inspection de l'Enseignement de l'Arabe
EX	: Examens
SET	: Service de l'Enseignement Technique
CDP	: Centre de documentation pédagogique
CPP	: Centre de perfectionnement pédagogique
SOSP	: Service d'orientation scolaire et professsionnelle
SPRP	: Service des programmes et de la recherche pédagogique
1er D	: 1er degré
2ème D	: 2ème Degré
SSc	: Statistiques scolaires
EFE	: Etudes des financements de l'Education
GDCS	: Groupe de développement des constructions scolaires

ORGANIZATION CHART OF THE EDUCATION SYSTEM IN CHAD

ANNEX II



* For the best students only.

Spensac : Section préparatoire à l'école normale Supérieure d'Afrique Centrale.

Source : Ministry of National Education and of Culture.

ANNEX A

PUBLIC TECHNICAL EDUCATION 1969

Distribution of Technical Education Personnel by Title and Nationality

Titles of Functions	Chadians		French		Total	
	M	W	M	W	M	W
Administrative Personnel						
Heads of Institutions			4		4	
Vice - Principal			1		1	
Bursar	2				2	
General Supervisor	3				3	
Resident Supervisor	3				3	
Secretary				4		4
Total	8	–	5	4	13	4
Teaching Personnel						
Certified Teacher			3	2	3	2
Licenced Teacher			5	3	5	3
Teaching Head			1		1	
Secretarial Teacher				3		3
Bookkeeping Teacher			2		2	
General Education Teacher (CET)			2		2	
C.E.G. Teacher				3		3
School Directress				1		1
Teacher				2		2
Assistant Technical Teacher	8		4		12	
Theoretical Technical Education Teacher			1		1	
Engineer	1				1	
Worker Instructor	2				2	
Head of Contractual Work			1		1	
Drawing Teacher	1			1	1	1
Sculpture Teacher	1				1	
Physical Education Instructor	2				2	
Art Monitor	4				4	
Called from the Contingent			8		8	
General Total	21	–	23	9	44	9

Foregoding includes that of the two Lycées Techniques, plus the two Art Centers (Fort-Lamy and Fort-Archambault).

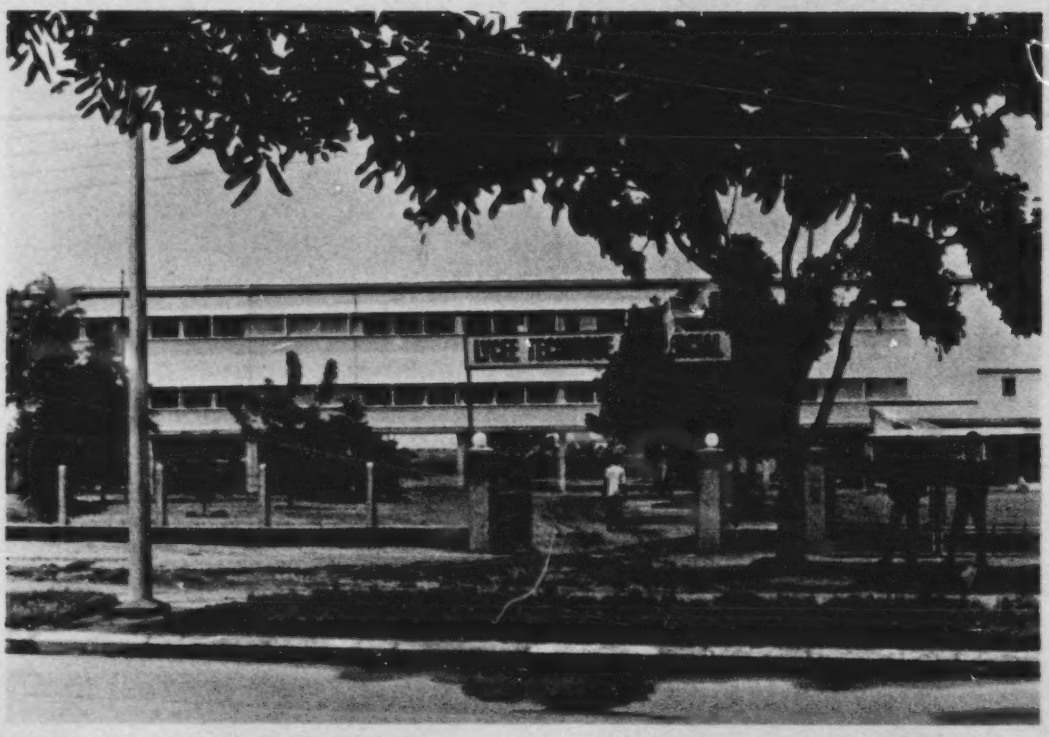
EXAMINATION RESULTS SINCE 1948
(These figures are comprisea of only Chadians)

Years	C.E.P.T.	B.E.P.C.	Number Admitted C.A.P. comm.	C.A.P.ind.	Bacc.
1948	60				
1949	91				
1950	95				
1951	122				
1952	169	1			
1953	170	10			
1954	220	15			
1955	288	34			
1956	364	25			
1957	611	38			
1958	520	37	2		
1959	938	62	7	17	
1960	967	92	12	10	
1961	1 356	86	17	12	2
1962	2 346	173	9	14	6
1963	1 816	190	10	13	2
1964	3 959	259	4	13	5
1965	2 913	231	6	1	17
1966	5 856	366	17	12	19
1967	5 299	305	7	12	22
1968	4576	658	17	24	55

EXAMINATION RESULTS IN 1969

Type of diploma	CHADIANS				FOREIGNERS			
	Presented		Passed		Presented		Passed	
	B	G	B	G	B	G	B	G
CEPT	10 126	1 059	3 790	359				
BEPC	1 510	75	630	20	72	30	51	21
CAP Office Employee	46	1	19	1	1			
CAP Bank Employee	28		3		3	1		1
CAP Assistant Bookkeeper	51		14		6			
CAP Auto-Mechanics	7		4					
CAP Electricity	9		3					
CAP Masonry	5		4					
CAP General Mechanics	12		4					
CAP Carpentry	2		1					
Bac A2						2		
Bacc A3	9		8					
-"- A4	35		27		8	7		
-"- C	6	1	6		2	1	1	
-"- D	90	2	44	1	10	3	8	
-"- G1	17		5		2	1	2	
-"- G2	14		10		2	1		
Mechanics Cont.	4		2					

Welding shop
Vocational training Center - F.T. Lamy



The Commercial Lycée Technique - F.T. Lamy

REPUBLIC OF GABON

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I

INVENTORY OF FACILITIES FOR TECHNICAL EDUCATION AND VOCATIONAL TRAINING IN GABON

A. INSTITUTIONS AND COURSES UNDER THE MINISTRY OF NATIONAL EDUCATION

A.1. Institutions providing long-term technical training (2nd cycle)

a) Technical Lycée at LIBREVILLE

b) School of Public Commerce at PORT GENTIL

A.2. Institutions providing short-term technical training

a) Schools of technical education (LIBREVILLE, OYEM, MOANDA, and TCHIBANGA)

b) 1 private commercial section at BITAM

A.3. Para-industrial and handicrafts training

2 public Apprenticeship Centers

A.4. Traning for women and girls (homemaking and dressmaking)

A.4.1. 3 Technical Schools of Feminine Arts (MOUILA, FRANCEVILLE and MAYOUMBA)

A.5. The University Institute of Technology

B. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF LABOR

B.1. Centers of rapid vocational training (LIBREVILLE and PORT GENTIL)

B.2. "Sainte Marie" private center for rapid vocational training

B.3. Rapid vocational training center for commercial and clerical staff

C. INSTITUTIONS ADMINISTERED BY OTHER MINISTRIES

C.2. Post Office vocational training center at LIBREVILLE, administered by the National Office of Postal and Telecommunications Services

D. TRAINING PROVIDED BY PRIVATE ENTERPRISE

E. OTHER ORGANIZATIONS

A. INSTITUTIONS AND COURSES ADMINITERED BY THE MINISTRY OF NATIONAL EDUCATION

Introduction

The Ministry of Education is responsible for the implementation of government policy with regard to education. It also carries on research in methodology and organization. The Ministry administers numerous state-operated educational institutions and also supervises the private schools.

Private education is governed by legislation, which provides for uniform education throughout the country; use of the official language (French), conformity with official programs, a single system of examinations and tests and maintenance of professional and moral standards. In return for these requirements, the state makes a considerable contribution to private education through subsidies.

A National Education Council and a National Council for Technical Education bring together those concerned with public and private education. The school year is identical with that of France.

In technical education, the programs and methods are identical a neary identical to those employed in France. The person responsible is the Director of Technical Education.

In the first plan, for 1966/70, an overall structure for technical education was proposed (see Annex I). Schooling is compulsory up to the age of 16, resulting in a level of admission to the CETs or Lycée at the 4th grade.

TREND OF ENROLLMENT IN TECHNICAL EDUCATION SINCE 1961

Year	No. of students	Increase
1961	165	100
1962	271	164
1963	385	233
1964	1 001	607
1965	1 236	749
1966	1 441	873
1967	1 504	912
1968	1 539	933

Source : Statistical Yearbook 1967-68

A.1. Institutions providing long-term technical education (2nd cycle)

a) The Albert Bernard Bongo Lycée Technique at Libreville (not including the CET annex)

In this school, students are oriented, on completion of the 4th grade, either toward the industrial or the commercial section. The examinations at the end of training are those for the BEC (brevet d'enseignement commercial), the BEI (brevet d'enseigneement industriel), the BSEC (brevet supérieur d'enseignement commercial), the brevet de technicien (technician's diploma) and the baccalauréat technique et économique (baccalaureat in technology and economics).

The buildings of the Lycée Technique were renovated in 1968, but with little effect on the workshops. A dormitory for 650 students is on the school grounds.

LYCEE TECHNIQUE LIBREVILLE
Number of students per section – School year 1967-68

Section	1st year		2nd year		3rd year		4th year		TOTAL		
	B	G	B	G	B	G	B	G	B	G	T
Secretarial training		23		11		7		6		47	47
Accounting	46		45	6	24	2	17	2	132	10	142
Economics (BSEC)	17								17	–	17
BAC Economics	30	7	50	3	8	1			88	11	99
BAC Technique	23		16		6				45		45
Brevet of technician			11						11		11
General mechanics	55		56		13		17		141		141
Auto mechanics					25				25		25
Carpentry					12		8		20		20
Total	171	30	178	20	88	10	42	8	479	68	547

Source : Statistical Yearbook 1967-68

The breakdown by sections shows examinations taken and the length of the courses :

The complete BEI takes 4 years from the 4th grade.

The complete BEC takes 4 years from the 4th grade.

The baccalauréat takes 3 years from the second grade.

The second plan, covering the years 1971 to 1975, contains provisions for reorganizing the Technical Lycée at Libreville, which is to become exclusively a technical institution of second degree, and will thus train students for the BEI, baccalauréats techniques and brevets de techniciens. The CET will become a separate institution (see Annexes II and III, "New structure of the Technical Lycée").

b) School of Commerce at PORT GENTIL

This was opened in November 1967. Construction was completed in February 1969. At the end of 1968 there were 16 students in the 1st year of studies (2nd grade). The school's capacity is 40 students trained for posts similar to those of technical officials and middle-level management, in public administration or private enterprise.

A.2. Short-term technical training

a) Public schools of technical education

These schools give 3-year courses for various types of CAP diplomas. Efforts have been made to create new programs adapted to Gabon's specific requirements even when this implies departing from present directions. The various courses of training are as follows for the four CETs :

NUMBER OF STUDENTS PER YEAR, COURSE AND SECTION

Section	1st year		2nd year		3rd year		4th year		TOTAL		
	B	G	B	G	B	G	B	G	B	G	T
General mechanics	39	1	78		28				145	1	146
Auto mechanics	15		58		54				127		127
Metalwork	10		19		11				40		40
Electricity			15		17				32		32
Carpentry	10		27		28				65		65
Masonry	10		11		11				32		32
Diesel mechanics							13		13		13
Total	84	1	208		149		13		454	1	455

Numbers in the different schools are as follows:

	1st year		2nd year		3rd year		4th year		TOTAL
	B	G	B	G	B	G	B	G	
CET LIBREVILLE	60	1	120		111		13		305
CET OYEM	15		22		24				61
CET MOANDA	10		30		12				52
CET TCHIBANGA									

There was an apprenticeship-center at TCHIBANGA until 1968. During the school year 1969, it was transformed into a technical education school (CET), specializing in masonry and cabinet-work. The Technical Education Department desires to create in Gabon what the "Ecole Boulle de Paris" is in France. This is a challenging innovation which merits external financial aid.

b) Protestant private commercial training section at BITAM

This section gives a short-term commercial training course, with the following enrollment: 1st year: 7 boys, 4 girls — 2nd year: 8 boys; for a total of 19 students in 1968.

A.3. Public apprenticeship centers

The apprenticeship centers were orginally intended for training rural craftsmen, but the instruction almost immediately became oriented towards training for the CEAP (certificat élémentaire d'aptitude professionnelle) in carpentry.

In 1968, there were 12 centers still in existence, with a total of 338 students and a 2-year training course. During the school year 1968-69, 10 centers were reorganized, one of them at Tchibanga, becoming a CET. They have been integrated into the system of terminal education. Today the centers are becoming diversified in order to conform more closely to local needs and to provide training of more practical use than in the past.

In July 1968, a request for financial and technical aid was made to the United Nations to further this purpose.

The remaining 2 centers (Libreville and Fougamou) are the basis of interesting innovations being carried out by the Technical Education Department.

A.4. Technical education for women and girls (home economics and dressmaking)

A.4.1. The Technical School of Home Economics

3-year courses for the CAP diploma. There is a public school at MOUILA, and two private Catholic schools at FRANCEVILLE and at MAYOUMBA, the enrollment being:

	1st year	2nd year	3rd year	TOTAL
MOUILA	24	12	3	39
FRANCEVILLE	37	17	5	59
MAYOUMBA	30	15	–	45
Total	91	44	8	143

A.5. The University Institute of Technology (IUT) at Libreville (formerly a polytechnic institute)

This institute is included here, although it is in a class by itself, because it is a member organisation of FESAC, and because of its regional character. It began operations in 1964 for the purpose of training technicians and public works engineers in 4 years, the entry standard being the BEPC for the former and the baccalauréat for the latter. However, there was no detailed study of the market before the institute was created, and the conception of the institute, as well as its functioning, have remained vague. In 1968, the final phase of construction was begun. A special recruiting campagn was undertaken in 1969, at baccalauréat level, with the aim of training senior technicians. There are about a dozen students, most of them from Congo-Brazzaville.

Diploma: University Diploma of Technology, equivalent to the Brevet de Technicien Supérieur. Cameroon will send students in September, 1970.

B. INSTITUTIONS ADMINISTERED BY THE MINISTRY OF LABOR

B.1. Centers of accelered vocational training at LIBREVILLE and PORT GENTIL

Length of training: 9 months

Diploma obtained: F.P.R. Certificate.

At Libreville: 120 students in the following sections: stone-masonry, reinforced concrete, auto mechanics, automobile body (being created), carpentry, electricity, electro-mechanics, refrigeration. The last 3 sections are under the direction of ORT technicians, financed by USAID. These 3 sections, appear to achieved excellent results, quantitative as well as qualitative. There is close collaboration between the ORT Chief of Party and the Ministry of Labor, and this has resulted in better employment of students after training.

At Port Gentil: the same system, with 45 students in sections for metalworking, auto mechanics and general mechanics.

B.2. The accelerated vocational training center "Sainte Marie"

This center has recently been modernized, enlarged, and the training programs revised. The length of the courses is longer (2 years) with sections as follows: carpentry, general mechanics, electricity, auto mechanics.

B.3. Vocational training center for commercial and clerical staff

Same system of training with an enrollment of approximately 100 students to which can be added those taking advanced training courses.

C. INSTITUTIONS ADMINISTERED BY OTHER MINISTRIES

C.2. Postal services vocational training center at LIBREVILLE, administered by the National Office of Postal and Telecommunications Services, with 16 students.

D. TRAINING IN PRIVATE ENTERPRISE

Training and advanced courses are organized by private companies, but very often the Ministry of National Education is not informed of their activities. The most well known are:

— The COMILOG-COMUF company training center at MOANDA, with 2 technical teachers for 55 students. These students have been given refresher courses in various subjects during 1968, in groups from 6 to 11, and at a minimum level of the CAP diploma.

— The Mobil Company

— The Shell Company

— The SEEG (Gabon Water and Electricity Company)

— The SPAFE petroleum company

— The SER refineries.

No functional relationship exists between these private enterprise training centers and the public schools. Yet it would obviously be in the interest of each to allocate their tasks and make them complementary instead of parallel.

F. OTHER ORGANIZATIONS

AFCA provided some additional training in the final grades of the Technical Lycée, mainly on human relations. The same organization gives basic on-the-job training to employees of the Ministry of Public Works at LIBREVILLE.

II

EMPLOYMENT SITUATION AND TRAINING NEEDS

A. EMPLOYMENT SITUATION

The employment prospects up to 1980 in the monetary sector appear to be compatible with the maintenance of other desirable activities, and, especially, with the needs of the subsistence sector.

The employment situation in 1967 can be derived from the statistics of the Gabon Social Security Fund (CGPS), which do not include government officials or members of the army or police force. In that year, 1,067 employers had 51,761 workers (excluding domestic staff), of whom 9,523 were engaged in forestry, 7,020 in commerce and banking, 6,983 in construction and public works, 6,698 in government services, 3,094 in the timber industry, and 2,848 in the extraction of minerals and other materials. Approximately half the employees worked in the Estuary area and almost a quarter in maritime Ogooué.

Employment in the Monetary Sector	Employment 1964	Projection 1970	Projection 1980
Agriculture, livestock, fishing	260	1 100	1 500
Forestry	11 240	14 700	25 000
Mining (including oil extraction)	3 560	4 050	5 750
Power (including refineries)	300	550	600
Industry	4 770	6 750	10 400
Construction and public works	5 000	6 400	8 200
Commerce	3 830	6 850	10 050
Transportation and other services	5 240	4 300	5 400
Administration, private education Semi-public organizations	14 100 (1)	16 800	21 700
Domestic staff	? 500	3 000	3 900
TOTAL	50 800	64 500	92 500 (2)

Source : Five-year Plan 1966-70

(1) 11,530 for the administrative services, including the army and the police force 1,150 for private education, 1,420 for semi-public organizations.

(2) Provided the railroad is constructed. The figure becomes 77,400 if it is not.

B. TRAINING NEEDS

The above table shows the employment prospects for 1980. In view of the fact that the building of the railroad is highly probable, the Plan estimates that the theoretical training objectives between now and 1980 should be as follows for the specialist training establishments:

THEORETICAL TRAINING OBJECTIVES

Type of training	Skilled, highly skilled	Foremen, Supervisors	Technicians	Managers, Senior Managers	TOTAL
Industrial	4 300	875	900	600	6 675
Commercial	2 000	440	400	440	3 280
Agricultural and forestry	140	355	85	110	690
Teaching	1 800	300	100	100	2 300
Medico-social	520	590	10	130	1 250
Other types of training	180	50	110	70	410
	8 940	2 610	1 605	1 450	14 605

These specialized training centers should be supplemented by training within the enterprise of some 4,000 skilled and highly skilled persons and 250 to 300 supervisors and managers.

In a draft of the possible balance of needs and human resources in the modern sector, the first Plan showed that while it might be hoped that in 1970 there would be sufficient manpower to implement the first Plan, from 1970 onwards, assuming that the railroad would be constructed, it would be necessary to call on manpower from outside the country. However it should be noted that the use of expatriate manpower would be envisaged by the Gabonese authorities, only as a last resource. If the requirements for 1980 are considered in terms of quality, the first Plan states, "Bearing in mind the school enrollment that will be available at the required level, and probable availabilities, the training deficit in special institutions will be some 5,000 specialists, and the deficit in training in private enterprise will be 3,000 to 5,000. The total manpower deficit, resulting from lack of qualified personnel will thus be 8,000 in 1980".

C. CONTACTS WITH EMPLOYERS

The ORT team met with the following persons:

Mr M'BORO, Director of the Ministry of Labor

Mr MIKANGA, his deputy

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Mr NDIMAL, Head, Division of Manpower, Employment and Accelerated Vocational Training

Mr BOUGLE, President of UNIGABON

Mr NIAZY, ILO expert, advisor to the CFPR at Libreville

Mr HOUDIN, Secretary General of the Chamber of Commerce.

Mr NDIMAL, with Mr MARCOVICI, ORT Chief of Party, and Mr NIAZY, carried out a survey on manpower problems in the interior. Below is an excerpt from their preliminary report:

"With regard to the training given by our centers, private enterprise has sometimes expressed regret at the limited number of sections. For this reason, the problem of training and avanced courses for marine diesel mechanics has arisen. It must, in fact, be recognized that Gabon is a maritime country, with numerous rivers and an extensive seacoast. Waterborne traffic, already heavy, is bound to increase in the years to come, with an accompanying increase in the number of marine engines in use. Consideration should certainly be given to the possibility of providing this training."

Mr NIAZY, who has spent some years in Gabon, confirmed that almost always the large companies have trained their workers themselves (specialists and skilled workers). On the other hand, they have done no training of middle-level and senior management staff.

ORT's experience during its years of work in Gabon has had positive results. The great majority of the men who have been trained have remained in the jobs to which they were appointed, and many of them have been promoted. These results can be ascribed to a unique approach to problems, and to training methods that are particular to ORT.

It is agreed generally that Gabon requires middle-level management staff, especially technical management, in all fields and for a variety of reasons, the chief of which are the small population, the desertion of the private for the public sector, the efforts to be made with respect to the Gabonization of management, and, finally, the enormous economic potential of the country.

Annex V presents an overview of industry in Gabon showing present numbers of employees and, in the column "Remarks", the immediate personnel needs of these firms.

D. THE NATIONAL COMMITTEE FOR COORDINATION OF TRAINING AND EMPLOYMENT (CNCFE)

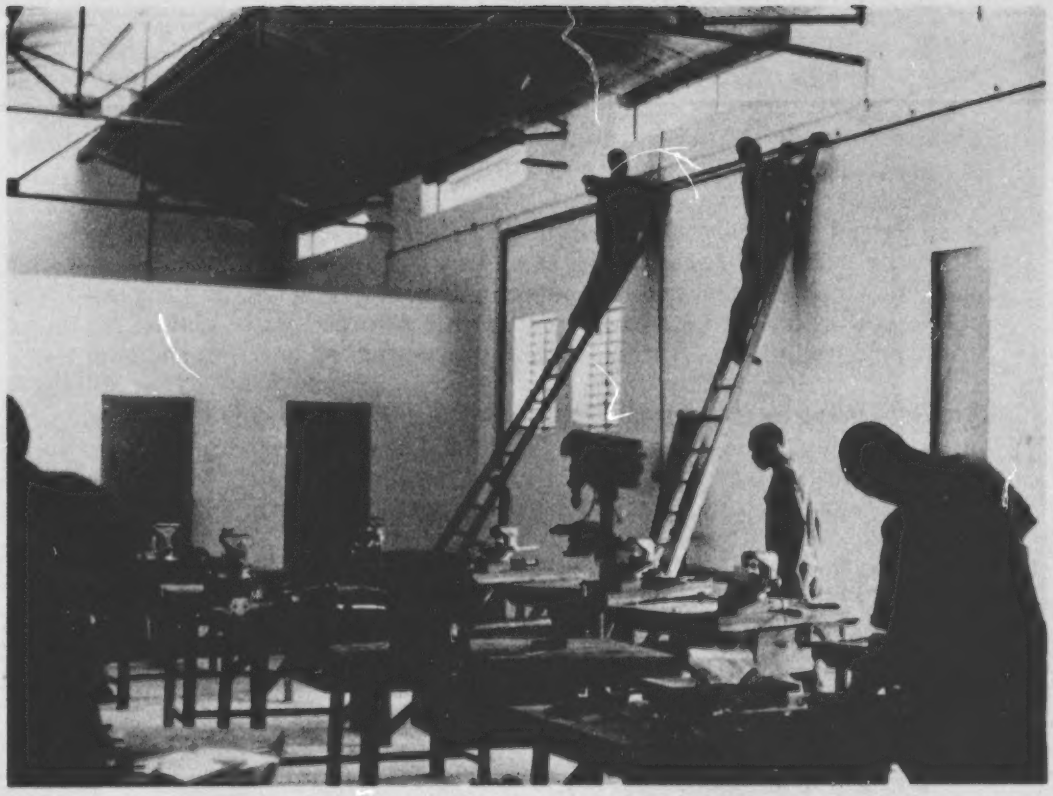
This report has already set forth, in its recommendations, the creation of a national office for vocational training. In Gabon there already is a coordinating organism whose objective is to make a thorough survey of manpower planning in relation to training programs.

The CNCFE, which is directly responsible to the President of the Republic, was created in November 1968. The chairman is the Minister of the Plan.

Functions of the Committee

From time to time it reviews the requirements of employees to be trained or given advanced courses. From the results, it works out the modifications to be made, in capacity and level, to the existing local training facilities, and the need for training abroad.

The Committee follows the trends of distribution and structure of the working population, and proposes measures aimed at redressing imbalances which would adversely affect the progress of the national development plans.



Electrical installation
AID/ORT refrigeration and electromechanics training Center - Libreville

III.

RECOMMENDATIONS

1. The problems of vocational training and technical education in Gabon are quite different from those in the other three countries. The mainspring of economic development is industry, not agriculture, and the population of Gabon is small. For these reasons, the Gabonese authorities should take a different approach to manpower problems, and should be encouraged to modify the structure of technical education, seeking educational methods better adapted to the problems of Gabon. Though the French and the Gabonese share this point of view, much remains to be done. The desire to adhere at all costs to French diplomas has not brought good results. The situation is exacerbated by retention of outmoded diplomas (such as the BEI), retaining only the title.

   The Gabonese authorities should define occupations which would better meet the needs of the economy, and develop middle-level manpower (supervisors and foremen), rather than upper-level or skilled workers. There are several automated plants in Gabon, and there will be still more with the advent of the railroad, the port of OWENDO and the establishment of processing plants. On the other hand, manpower is scarce. It would clearly be useful to create automation sections covering mechanical, hydraulic, pneumatic and electronic automation.

2. **The Normal School of Technical Education (ENET)**

   In Gabon, as in the other countries, the provision for training corresponding to the requirements of new industries, and even the maintenance of the existing training capacity, depends on the country having at its disposal, in the shortest possible time, a teaching staff composed of its own nationals. A project for an ENET is already under way and well advanced.

   The feasability of regionalizing this project should be studied. In view of the urgent nature of the problems in this field, attention of the authorities is drawn to the possibility of sending a number of local teachers, presently employed, but lacking pedagogic training, for a short technical and pedagogical training period in their own subject in a specialized institute. There exist institutes with considerable experience in this field, which have already proven their worth in other African countries.

3. **Tourism**

   The first Five-Year Plan, for 1966-1970, contains projects for tourism which "respond to considerations of prime necessity". They are:

   a) development of Pointe Denis

   b) creation of the National Park of WONGA-WONGUE

c) a luxury hotel in Libreville

d) a hotel at NDJOLE.

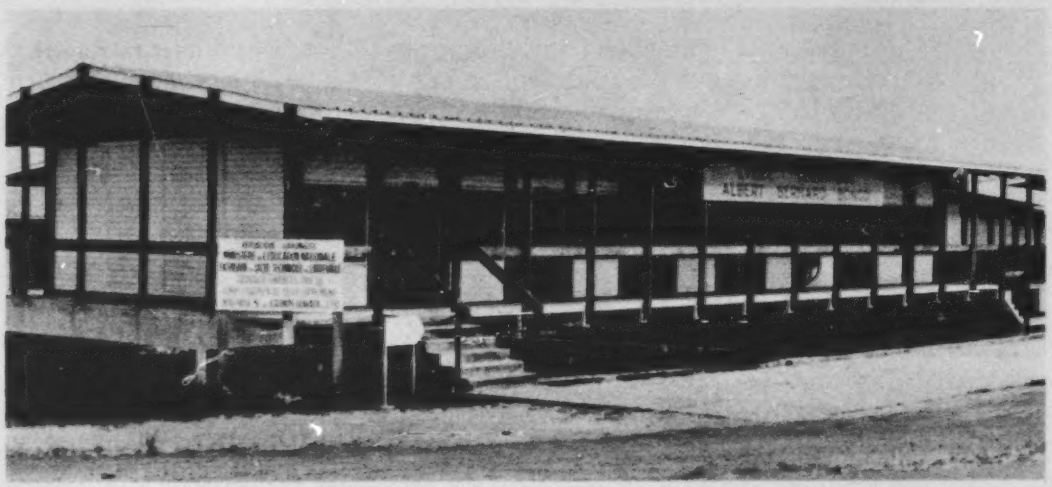
The second Plan will probably place greater stress on tourism. The problem of training hotel staff, already evident, will become acute, and the only possible solution appears to be (as in the other three countries), the creation of a hotel school, including perhaps, the training of reception staff, at regional level.

4. Fishing and waterborne traffic

The fishing industry is not very developed in Gabon. It is estimated that the average consumption of fish per head is only about 37 1/2 lbs annually, which is considerably less than that in other coastal countries of Africa, notably Ghana and Nigeria. Fishing is a part-time occupation in the lagoons and rivers near the Atlantic coast, and also in the rivers and lakes of the interior during the low-water season (from June to September). There are three small commercial fishing companies at Port Gentil, the largest being the Société de Pêcheries Gabonaises. Of an overall catch estimated at 2,100 tons per year, the share of these three companies is 1,250 tons. The Five-Year Plan provides for some 250 million CFA francs for the development of the fishing and canning industries.

The interior of Gabon is covered with lakes and navigable waterways, which, as Mr NDIMAL pointed out (see II C), will result in an increase in the number of marine engines in service.

For this reason, the training (and advanced training) of mechanics for marine diesel engines is recommended. With the new port of OWENDO, other merchant marine trades will develop: repair mechanics, radio operators, navigators, etc. It would be useful to obtain the cooperation of maritime shipping companies in the project for creating a merchant marine school, which would be economically viable only on a regional scale.



Lycée Technique - Libreville

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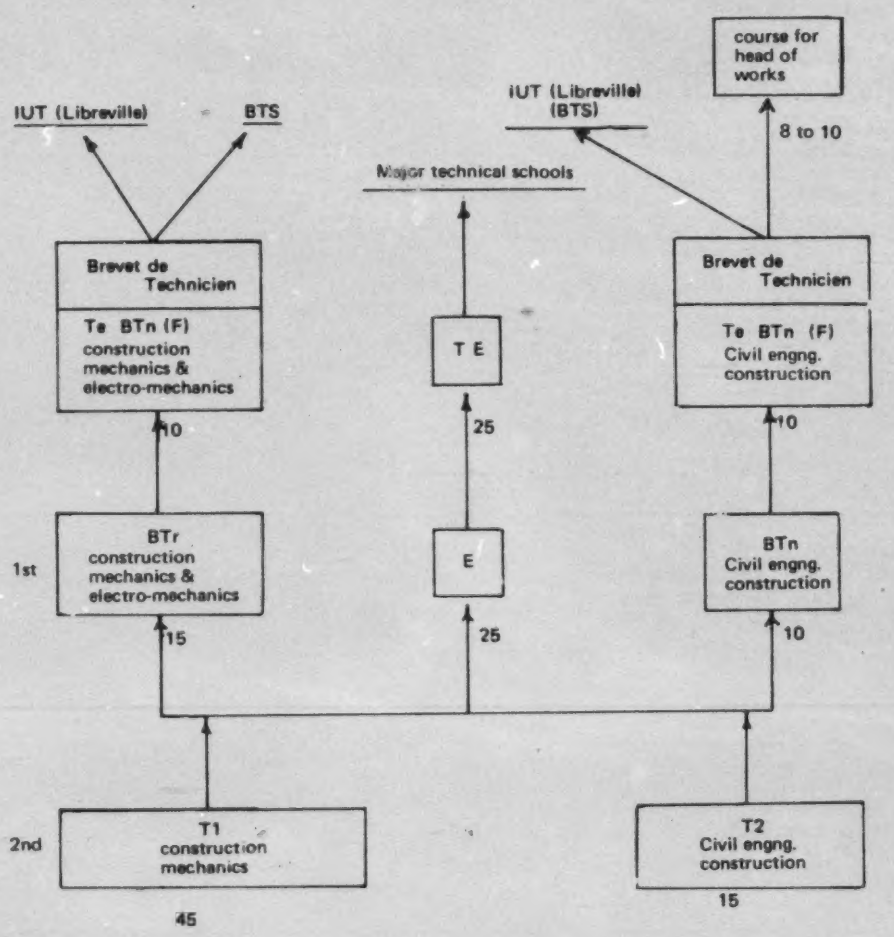
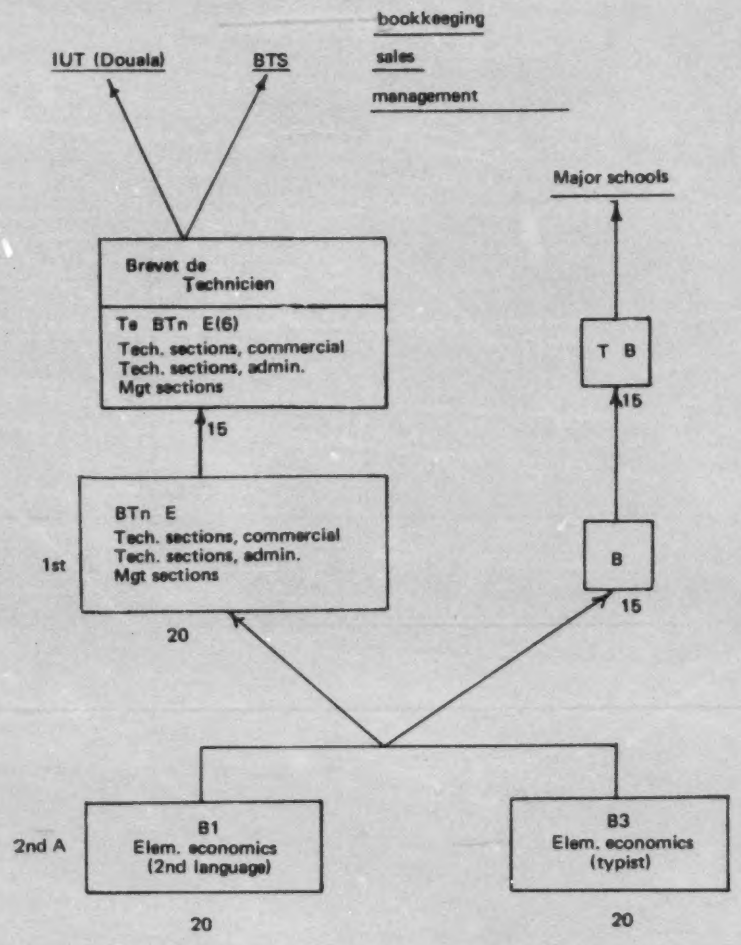
ANNEX I

LYCEE TECHNIQUE AT LIBREVILLE (2nd Cycle)

INDUSTRIAL SECTIONS



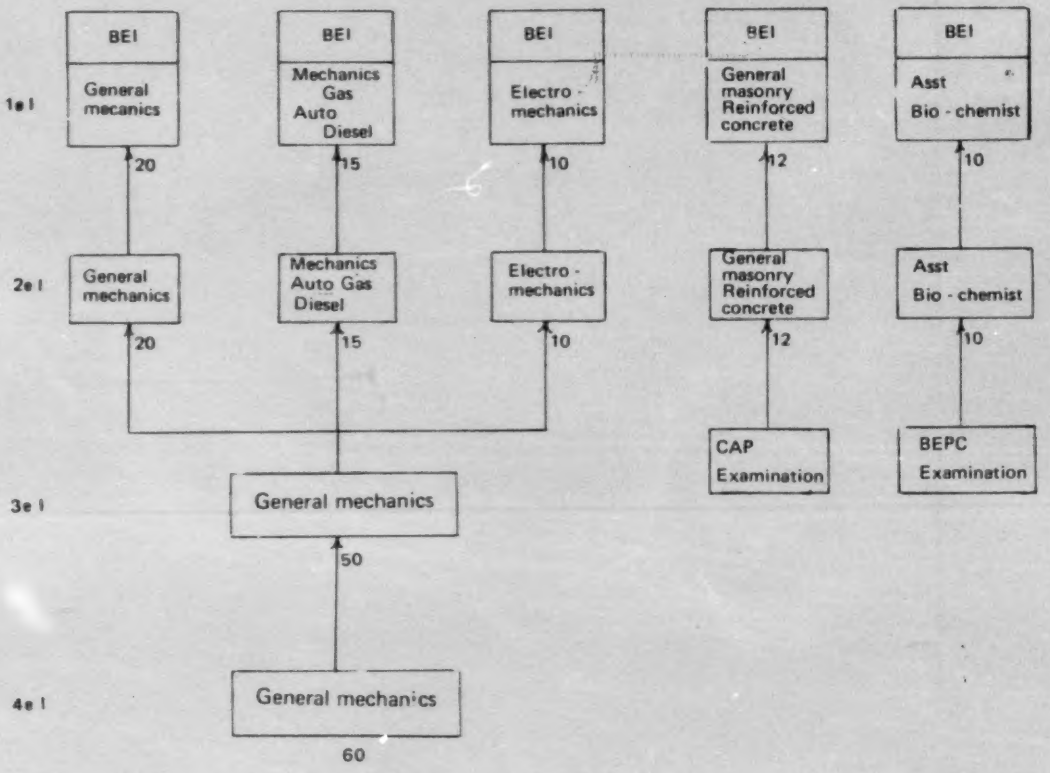
ECONOMIC SECTIONS



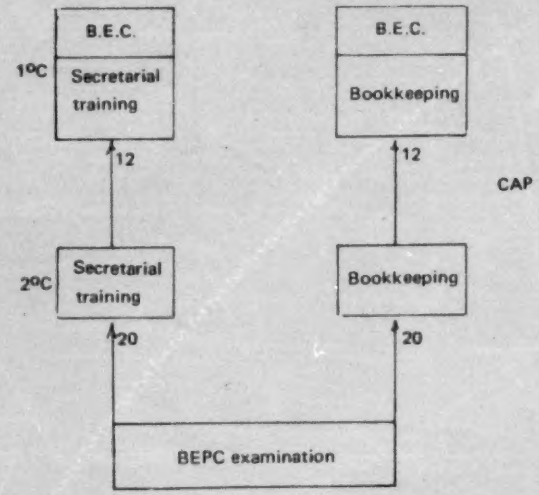
ANNEX II

LYCEE TECHNIQUE AT LIBREVILLE

INDUSTRIAL SECTIONS



COMMERCIAL SECTIONS



ANNEX III

ESTABLISHMENT OF TECHNICAL COLLEGES

DURING 2nd FIVE-YEAR PLAN

LIBREVILLE

- Carpentry-Framework
- Industrial electricity

(4th-yr radio-electricity or industrial refrigeration)

- Constructional electricity
- Shipyard mechanics

180

OYEM

Repairs-maintenance
Electro-mechanics automobiles
(CAP in 4 yrs)
Auto body repairs
House-painting - Glazing - Flooring

120

MAKOKOU

Company school
(subjects : mining, railroading)

100

PORT - GENTIL

Forge work - Metal construction
(4th-yr tracing
Welding (arc & oxy-ac.)
General mechanics

Plumbing

180

TCHIBANGA

Carpentry Cabinet-making
Masonry - Reinforced concrete

Agricultural supervisons and extension workers

120

MOANDA

General mechanics
Repairs - Maintenance
Electro-mechanics auto
(CAP in 4 years)
Sheet-metal work Welding

100

ANNEX IV/1

TABLE OF PRIVATE ENTERPRISE NEEDS

PLACE	COMPANY	ACTIVITIES	NUMBER OF EMPLOYEES				OBSERVATION
			Gabonese	Europeans	Other Africans	Total	
PORT-GENTIL	SOAEM	Lighterage – goods shipping haulage transportation	445	14	–	459	Present staff needs * 2 Bookkeepers 2 Consignment clerks 2 Customs clerks 2 Sec.-stenog. 3 Lighterage clerks 2 Head storekeepers 60 Wood-stackers 2 Boilermakers 2 Mechanics
	CMCR	Consignment ships – lighterage Handling – River transportation Haulage	437	14	6	457	– Shipping employees speaking English – Qualified bookkeepers – Diesel mech. – Driver w. multiple licences – Dock workers/Stevedores – Boilermaker
	SOGACO	Import – Commerce General trade	113	10	–	123	1 Bookkeeper 2 Managers
	SNOV	Maritime consignment Haulage – shipping	127	8	–	135	Diesel mech. Bookkeeper - shipping clerk
	GABOMA	Retail trade Shipping	45	3	1	49	4 Commercial managers

* These needs are illustrative only. They fluctuate quickly and can only be considered on a short-term basis.

They fluctuate quickly and can only be considered on a short-term basis.

ANNEX IV/2

TABLE OF PRIVATE ENTERPRISE NEEDS

PLACE	COMPANY	ACTIVITIES	NUMBER OF EMPLOYEES				OBSERVATION
			Gabonese	Europeans	Other Africans	Total	
PORT-GENTIL	Ets. A. GALLAIS	Sawmill	73	3	–	76	– Mineral Grinder Saw operator –
	CCDG	Automobiles	8	1	–	9	1 Bookkeeper 1 Typist
	FOREX	Oil wells	59	21	1	81	– Mechanics (general and diesel)
	OBAE	Commercialization of Okoumé	215	7	2	224	Nil
	MOBIL OIL AE	Petroleum	26	1	3	30	1 Shipping clerk
	Sté. A. ABELA	Maritime transportation	222	13	13	248	Camp leader (hotel school project)
	Ets DUCROS	General electricity Plumbing Roofing	36	4	1	41	– 2 Plumbers / zinc roofers – 1 Coil-winder repairman – 1 Electro-mechanic
	AIR-GABON	Airline	38	31	–	69	Nil
	S E E G	Water and electricity	191	30	2	223	Senior technicians (industrial electricity)
	U I A E	Petroleum installations – Metal structures – Naval shipyard – General mechanics – Machine - tools	144	12	1	157	– Skilled tinsmiths – Skilled welders

ANNEX IV/3

TABLE OF PRIVATE ENTERPRISE NEEDS

PLACE	COMPANY	ACTIVITIES	NUMBER OF EMPLOYEES				OBSERVATION
			Gabonese	Europeans	Other Africans	Total	
PORT-GENTIL	ELF – SPAFE	Oil prospecting and extraction	735	148	25	908	–
	S E R	Oil refining	165	60	14	239	–
MOUILA	REGION AGRICOLE	Agriculture	6	–	–	6	– 1 Secretary
	S O A C O	Construction	80	4	1	85	– 2 Carpenters – 1 Head of carpentry shop – 2 Frame-makers (for concrete) – 2 Scrap workers – 1 Construction electrician – 1 Plumber – 1 Mechanic
	Ets PANAYOTIS	Transportation	46	4	–	50	– 1 Skilled mechanic
	BOUDA L. MARIE	Construction	11	–	–	11	
	S E E G	Water and electricity	10	–	–	10	
	CECA – GADIS	Commerce	39	2	–	41	– 3 Senior managers – 1 Senior bookeeper – 1 Sales supervisor
	DAT	Transportation	36	2	–	38	
	SOMAGA	Commerce	10	1	1	12	Nil
				60	14		– 2 Frame-makers (for concrete) – 1 construction electrician

ANNEX IV/4

TABLE OF PRIVATE ENTERPRISE NEEDS

PLACE	COMPANY	ACTIVITIES	NUMBER OF EMPLOYEES				OBSERVATION
			Gabonese	Europeans	Other Africans	Total	
MOUILA	SOGACO	Commerce	27	2	2	31	Nil
	MAFOUMBI	Construction	10	–	–	10	
	RICORDEAU	Forestry	25	–	10	35	– 1 Mechanic – 1 Driver
	CHEIK-KEBI	Bakery Pastry					– 1 Baker
NDENDE	SOGIC	Commerce	15	4	–	19	Store managers
MANDJI	CFS	Forest products	90	3	–	93	Nil
	CGPPO		150	7	1	158	– 1 Skilled mechanic – 1 Electrician – 1 Engine fitter
FRANCEVILLE	SAEN	General trade Bakery	131	11	3	145	– 1 Diesel mechanic – 1 Baker/pastrycook
MOANDA	MARANGELIS	Commerce	18	2	1	21	– Manager/bookkeepers
	HATTON & COOKSON	General trade	27	1	4	32	– Store managers
	SOTRAHO	Construction - Commerce	100	12	3	115	– 1 Constr. electrician – 1 Refrig. electrician – 3 Workshop carpenters – 2 Frame-makers carpenters – 1 Auto-diesel & gas mechanic

ANNEX V/5

TABLE OF PRIVATE ENTERPRISE NEEDS

PLACE	COMPANY	ACTIVITES	NUMBER OF EMPLOYEES				OBSERVATION
			Gabonese	Europeans	Other Africans	Total	
MOANDA	SOTRAHO (cont.)						– 1 Typist – 1 Asst store-keeper for auto parts – 1 Plumber – flooring worker
	SATOM	Construction and public works	42	1	–	43	
	SAPLE	Road maintenance	24	1	–	25	Glazier-painter sign painter
	COMILOG	Mining	811	117	–	928	
BAKOUMBA	COMILOG	Cablecar	720	57	1	778	– 2 refrigeration technicians
MOUNANA	COMUF	Uranium mining	1200	100	1	1301	– 2 Asst bookkeepers – 2 Typists – 1 Refrig. technician – 1 Telephone operator – 1 Anaesthesist
MAKOKOU	MGM	Commerce	11	2	3	16	
	Ets HERISSE	Mechanical transportation	22	2	–	24	– 1 Polyvalent electrician (construction-automobile)
	SOMIFER	Roadworks	11	1	1	13	Nil
	MISSION BIOLOGIQUE	Livestock breeding	7	1	–	8	–
	Ferme d'Ipassa	Road-building Laboratories	59	2	–	61	Trained construction workers

GABON – PUBLIC TECHNICAL EDUCATION – PERSONNEL

Qualification	GABONESE			FOREIGNERS		
	Men	Women	Total	Men	Women	Total
Director				1		1
Certified teacher				8		8
Licenced teacher				5	3	8
Professeur d' Theoretical Technical education teacher	1		1	8	1	9
Asst. technical Teacher	3		3	21	3	24
Teacher CEG	7		7	4	3	7
Teacher E.P.S.				2		2
Engineer				2	1	3
Professor EPS	2		2	1		1
Teaching asst.				2	2	4
Head of practical work	1		1	1		1
Public works worker	1		1			
Worker teacher	20		20			
Head of education					1	1
Teacher CEG					1	1
Teacher	15		15	2	1	3
Orientation counsellor					1	1
University administration attaché				1		1
Sewing teacher		1	1			
General monitor				1		1
Miscellaneous				1		1
Total	50	1	51	60	17	77

Total private education personnel Men = 4 Women = 8 Total = 12

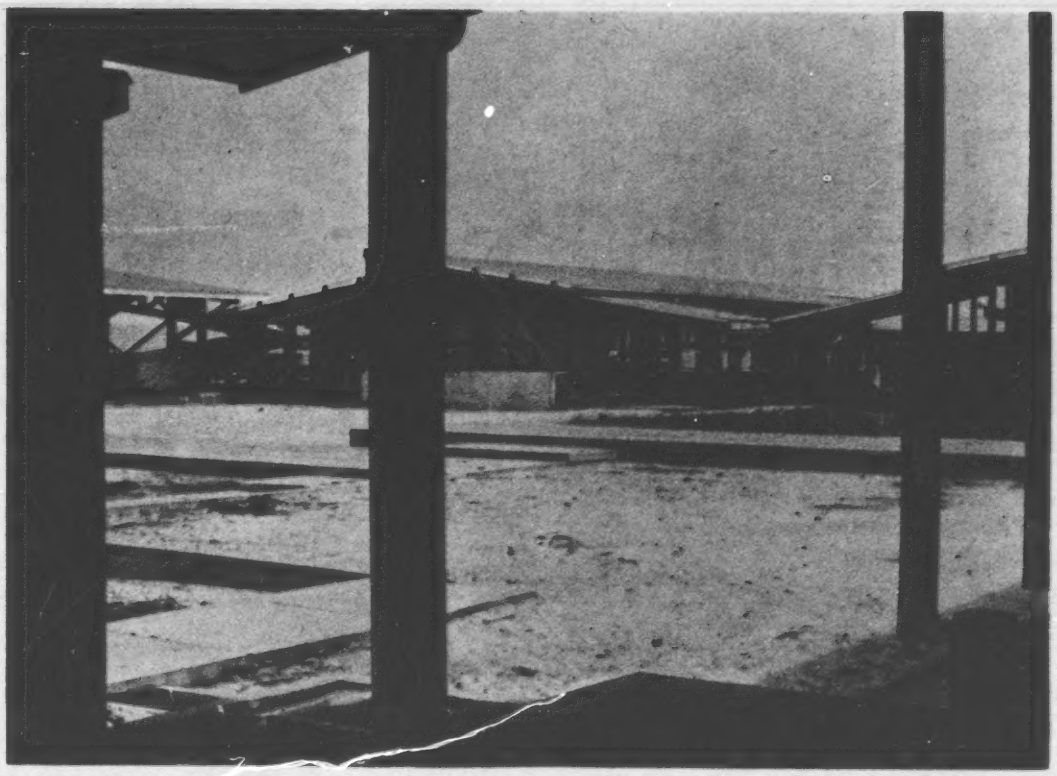
Source : Statistical yearbook 1967-68

EXAMINATION RESULTS OF JUNE AND OCTOBER 1967

Type of examination	NUMBER OF CANDIDATES						PERCENTAGE PASSED
	TAKEN			PASSED			
	B	Total	G	B	Total	G	
Baccalauréat		149			64 (40 nationals)		43,0%
Examination final class of 1st yr.		225			87		38,7%
B.E.P.C.		816		318	403 (362 nationals)	85	49,4%
C.E.P.E.				1817	2844	1027	
B.S.E.N. 1st part	21	23	2	8	9	1	39,1%
B.S.E.N. 2nd part	20	20	–	15	15	–	75,0%
B.S.E.N. 3rd part	15	15	–	10	10	–	66,7%
CFECN		RNP		58	65	7	
B.E.C.		"		4	6	2	
B.E.I.		"		8	8	–	
CAP (Commerce)		"		15	20	5	
CAP (Industry)		"		92	92	–	
CAP (Home making)		"		–	2	2	
CEAP (Professional)		"		41	41	–	
Head Monitor		"		145	168	23	
CEAP (Teacher)		"		74	87	13	
CAP (Head teacher)		"		20	22	2	

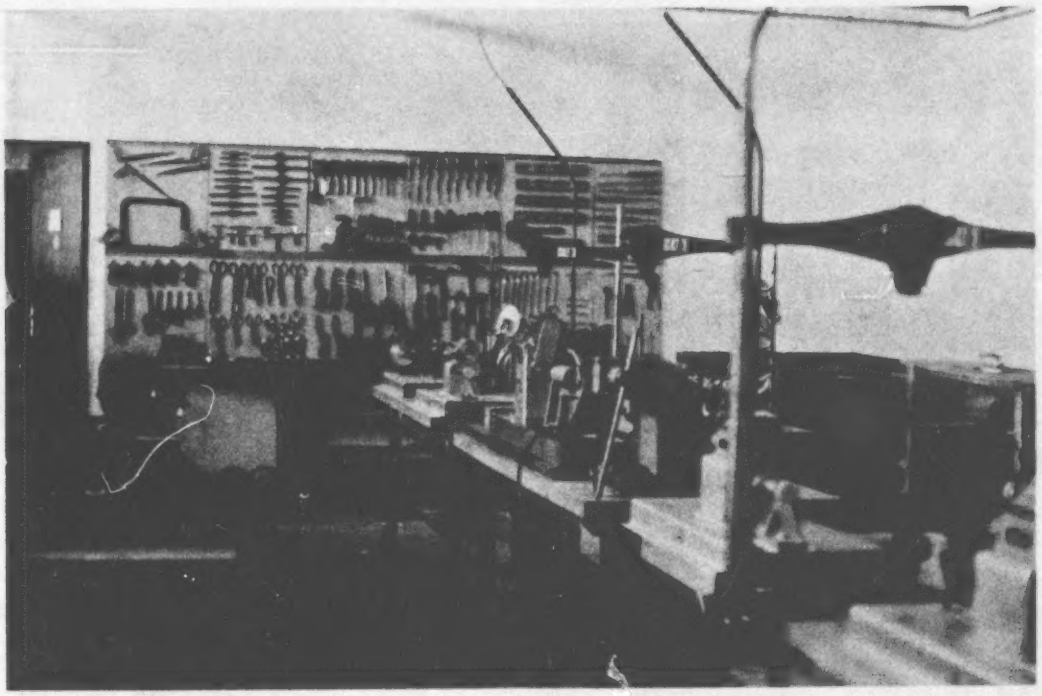
Note : RNP (Information not available)

Source : Statistical yearbook 1967-68



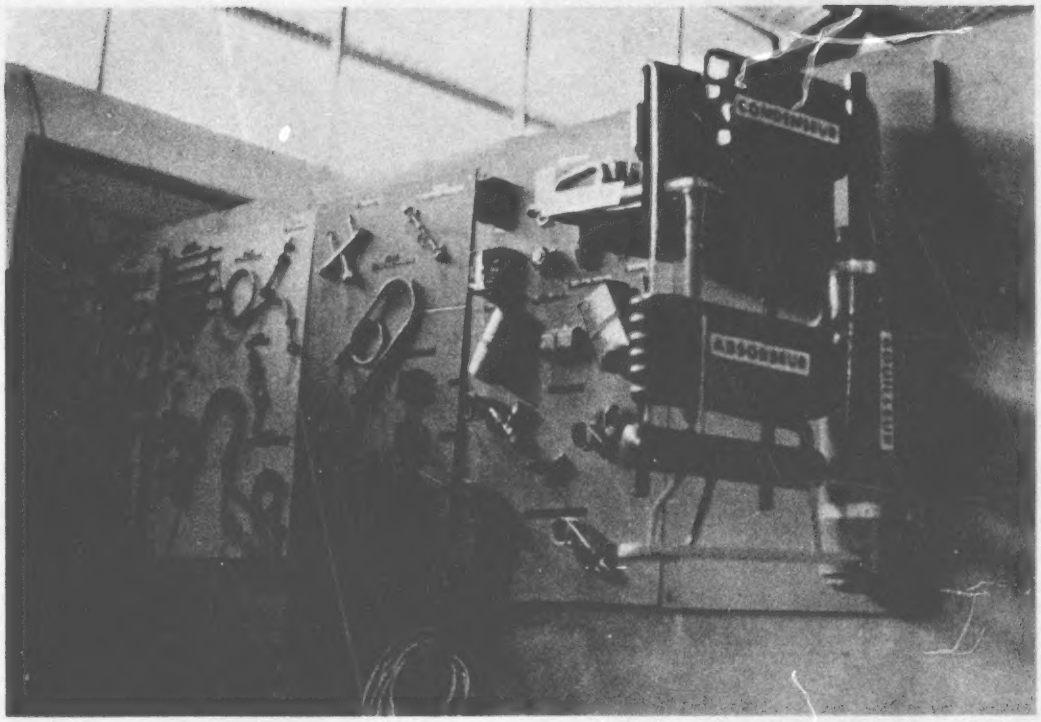
Lycée Technique - Libreville

Compressor installation
AID/ORT refrigeration and electromechanics training Center - Libreville

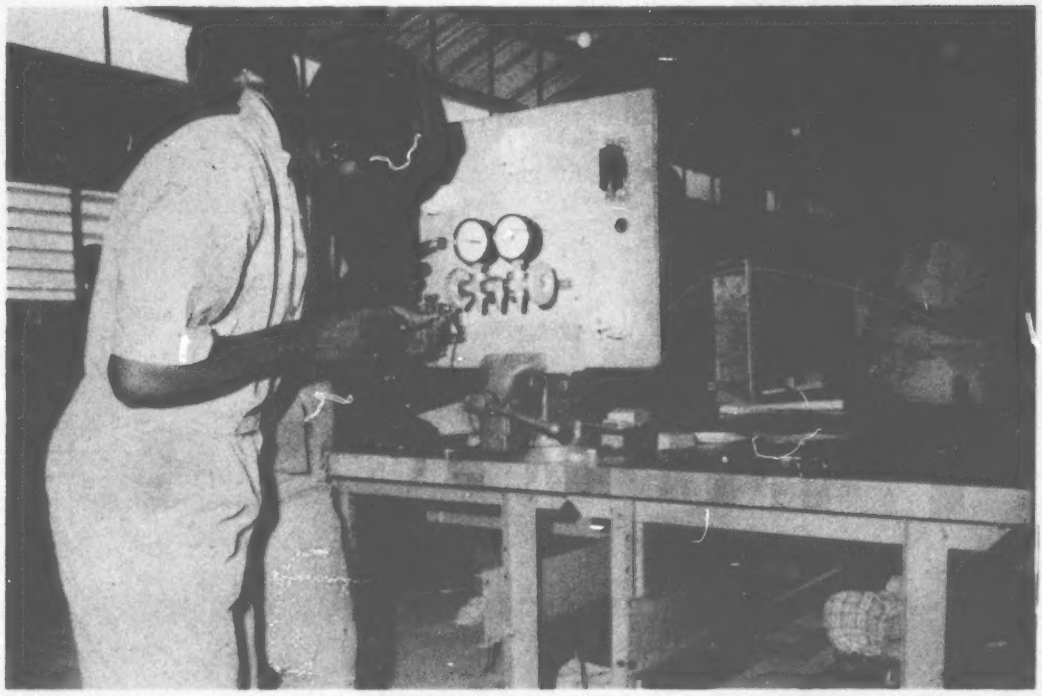


Electromechanics shop
AID/ORT refrigeration and electromechanics training Center - Libreville

Compressor installation
AID/ORT refrigeration and electromechanics training Center - Libreville



Refrigeration training aid
AID/ORT refrigeration and electromechanics training Center - Libreville



Installation refrigeration training aid
AID/ORT refrigeration and electromechanics training Center - Libreville

PART FOUR

UDEAC CONFERENCE ON VOCATIONAL TRAINING IN CENTRAL AFRICA

BANGUI

October 29 & 30, 1969

SUMMARY MINUTES

The Conference on Vocational Training in Central Africa was opened by an address by the Minister of Civil Service and Labor of the Central African Republic at 9.30 a.m. on October 29, 1969 (Annex II).

The Secretary General of UDEAC, His Excellency Charles Onana Awana, after welcoming the delegates, spoke of his visit to the ORT Central Institute at Anières, near Geneva, where he regretted that there were no trainees from the UDEAC countries or Chad.

Mr Eugene B. Abrams, ORT Director of Technical Assistance, then spoke, thanking all those who had helped ORT in the preparation of the preliminary report and described the history and the aims of this survey mission.

After adoption of the agenda (Annex I), Mr Michael Anchovey, Deputy Secretary General of UDEAC, was elected chairman of the conference, a task which he later turned over to Mr Mackpayen, President of the Chamber of Commerce of Bangui.

Discussions began with the study of the item "List of training facilities and needs", presented by Mr S. Guedj, of ORT. The heads of the delegations expressed their thanks to ORT for assembling the information and stressed the regional outlook in the various recommendations as being original in conception.

No comment on the substance of the report was made by any of the delegates. The changes and innovations having occurred since June 1969, as well as clarifications and corrections of details, have been included in the final report.

In the study of Point 7 of the agenda, a divergence of viewpoints appeared among some delegates, who wondered whether the regional outlook should take precedence over the national approach. Mr Anchouey reminded the meeting that the conference was taking place under the auspices of UDEAC and that, consequently, regionalization should have priority over national interests. This viewpoint was supported by the chairman, who stated that the regional or national choice was one for the heads of State. He had thus decided to deal with point 7 from the regional point of view. The national programs could be studied, if time allowed, either during the meeting or in talks between the delegations and the ORT representatives.

Point-by-point study of the General Conclusions and Recommendations. (1)

1. – The recommendation to establish a system of apprenticeship with the Chamber of Trades by drawing up a contract of apprenticeship between the employer and the apprentice was adopted unanimously. A Cameroon delegate pointed out

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(1) This section should be read with the General Conclusions and Recommendations, which appear in Part One (Ct. page 12).

the difficulties that such a system will encounter in his country, where a "certain liberality" permits private enterprise to train their own workers while giving them complete discretion concerning their grading and wages. This was one reason why the list of types of training provided by private enterprise could not be exhaustive.

2. – Chad was not particularly interested in this recommendation, but Gabon, the Central African Republic and Cameroon were generally in favor of it, and asked the ORT representatives how the system could be put into effect. It was decided that the development of electronics sections would be done in the existing technical lycées, that is, on a national basis. With regard to automation and the training of programmers and analysts, it was hoped that a regional school would be created, in view of the extent of the investment.

3. – This is in reality a double point, as the recommendation applies, on one hand, to the creation of national offices for vocational training and, on the other hand, to the creation of a regional office for vocational training for Central Africa. Chad supported the proposal for the creation of a national office, but abstained on the regional office. Gabon and the Central African Republic accepted the entire recommendation. Cameroon was in agreement with the first part, in spite of the national difficulties which it might raise. The help of ORT was requested by Cameroon for dealing with the psycho-sociological difficulties mentioned in the recommendation. With regard to the second point, the Cameroon delegate, while approving it, wondered what its effect would be on the national offices. Mr Anchovey acknowledged that a regional vocational training office within UDEAC ran the risk of expanding UDEAC's size and of increasing the number of its institutions. He proposed instead that there should be a series of regular meetings with the ORT representatives, during which there could be an exchange of information and technical assistance. This accounts for the use of the phrase "First Conference" in the closing communique.

4. – This point gave rise to long discussions revolving about definitions of the term " technician ". The required explanations were made, i.e., that there are three grades of technician, which are, in ascending order: technician, senior or engineering technician, and engineer (university-trained).

Universities or advanced technological schools to be created would be responsible for training engineers. The university technological institute trained, and would in future train more senior technicians; and while some sections of the technical Lycées train people for the technicians diploma, it was hoped that a regional establishment would train technicians for the whole of Central Africa. This last proposal received the unanimous consent of all those taking part. Cameroon even stated that, in view of the large extent of her needs in this field, it would be desirable to be able to depend on a regional school for training technicians in addition to the national polytechnic institute now being planned in Cameroon.

5. – There was unanimity concerning the creation of a regional normal technical education school for training of PTAs and PTETs. The delegates emphasized that, while waiting for the completion of this project, there was an urgent need to give advanced training to the local teachers currently employed and to provide preliminary training for the future students of these schools.

6. – All the countries taking part in the conference warmly supported the recommendation for a regional center for didactic methods and the fabrication of audiovisual and other teaching aids.

7. – The delegate of the Central African Republic recommended the creation, not only of an inter-state hotel school but also a school for hunting guides and a school of taxidermy.

Details of the Chadian delegate's speech have been embodied in the various project proposals. The Cameroon delegate said that training was even more urgent than had been thought, and that on-the-job training had already been begun in his country.

The French Cooperation Aid Fund is sending four technicians during the month of November 1969 to carry out a survey mission in Central Africa, in order to pinpoint tourist itineraries and possibilities in the area and, especially to study the setting up of facilities.

There was unanimity on this recommendation.

8. – The project to create a regional school for training watchmakers and repair technicians for precision instruments received the unanimous agreement of the delegates. The question of the level of recruitment for this establishment was raised. It was decided that the watchmaker-mechanics for repairing clocks and watches would be recruited at the level of the 5th or 4th grade, for a training period of 3 years; mechanics for repairing precision instruments would be recruited at a higher level, for the same length of training period, or would be given a 1-year specialized course, after training as watchmaker repair mechanics.

9. – The project for creating a school for merchant marine trades, able to supply not only Cameroon, Gabon, Chad and the Central African Republic, but also the Congo and Equatorial Guinea, was warmly received by all the delegations. The Gabon delegate asked the ORT representatives to allow for several levels of training and to bear in mind the existing training facilities in these countries when drawing up the project proposals. Assurance was given on this point.

10. – This point is of particular interest to Chad and the Central African Republic. Both countries urged that a survey mission should be financed as soon as possible, to investigate and define the commercial networks in the interior of the country, in order to lay the basis for a new structure and to ascertain the training requirements needed for development of a modern money economy network.

11 and 12. – These points were adopted unanimously.

The conference ended with unanimous approval of the final communique (Annex III).

ANNEX I

AGENDA

Wednesday, October 29, 1969

9.30 - 11.30

1. Opening address by the Minister of Civil Service and Labor of the Central African Republic.
2. Address of welcome from the Secretary General of the U.D.E.A.C., Mr ONANA AWANA.
3. Adoption of the agenda.
4. Introduction of draft report by Mr ABRAMS.

15.00 - 17.30

5. Election of chairman of the meeting.
6. Inventory of training facilities and needs (Mr Guedj).

18.00

UDEAC reception - Safari Hotel, 13th floor

Thursday, October 30, 1969

9.00 - 12.30

7. Regional and national prospects in the field of technical education and vocational training.

15.00 - 17.00

8. Conclusions and recommendations.

18.00

ORT closure reception

ANNEX II

ADRESS OPENING BY THE MINISTER OF CIVIL SERVICE AND LABOR OF THE CENTRAL AFRICAN REPUBLIC ON OCTOBER 29, 1969

Excellencies and Colleagues,

Mr Secretary General,

Gentlemen,

In the name of His Excellency, General Jean-Bedel Bokassa, President of the Central African Republic, and of his Government, it is my pleasant duty to welcome to this country the representatives of governments and of private enterprise of the countries which are our friends. You may be assured of the fraternal friendship of the people of the Central African Republic.

Gentlemen, the theme of your conference contains in itself the outlines of a problem that has been preoccupying most of our countries since they gained independence and in particular my own country, where an unusual experiment is in progress under the title "Operation Bokassa". In a word, the task facing the renowned head of the Central African Republic, His Excellency General Jean-Bedel Bokassa, and his Government is the mobilization of the entire population, creation of a mentality directed towards development and progress which will enable each citizen of this couintry to become aware of his or her own increasing potential and an effective role in the building of this nation. The vocational training necessary to provide leaders amongst the people is one of the conditions *sine qua non* for success in the enterprise of nation-building in which every one of us is passionately engaged.

The obstacles in the path of vocational training are, indeed, a grave handicap to our development. We therefore do not hesitate to seek solutions from organizations whose competence and experience in this field are well known.

We are pleased that the motive power for this meeting came from one of these organizations, for which no praise is too high — I am speaking of ORT (Organization for Rehabilitation through Training).

Although, when we take stock of the various sources of aid from which the countries of our sub-region benefit, we may regret our tardiness in turning to the services and assistance of ORT, we know that the activities of this organization have been demonstrated in other countries of the third world in general, and in Africa in particular, with singular success and the achievement of fruitful and fertile cooperation.

In the name of all of you, I would like to thank the Government of the United States of America which, through the Agency for International Development, has kindly financed this conference, providing once again a proof of its wish to assist the emerging countries.

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The presence of all areas of the labor world (public, semi-public and private) at this conference is sufficient indication of the importance attached by our heads of state, anxious for complete coordination in all fields, to the problem of vocational training, which is indubitably the foundation of development.

Gentlemen, the proposed agenda contains two essential points:

— examination of a report presented by the ORT survey mission which visited our countries;

— the regional and national prospects in the field of technical education and vocational training.

I am certain that you will examine these problems with competence and mutual understanding.

Before taking leave of you, I would like to assure you of the wholehearted hospitality of the city of Bangui, and I beg you to consider yourselves at home here. The city of Bangui is honored by your presence and will do everything possible to make your stay as pleasant as possible during your deliberations.

I now declare open the First Conference on Vocational Training in Central Africa.

ANNEX III

FINAL COMMUNIQUE

The First Conference on Vocational Training in Central Africa, held at Bangui on October 29 and 30, 1969, completed its work after reviewing the preliminary report prepared by the ORT experts at the request of the United States Agency for International Development.

This conference brought together representatives from the Federal Republic of Cameroon, the Central African Republic and the Republic of Gabon, all members of the U.D.E.A.C. and from Chad.

The Republic of Congo (Brazzaville) sent an observer.

The participants examined a series of recommendations dealing, in particular, with the creation of various vocational training centers of a regional character.

The technical discussion of the proposals took place in an atmosphere of mutual understanding.

The delegates of the member states of the U.D.E.A.C. and of Chad expressed the hope that the recommendations made would begin to be implemented with the least possible delay.

The participants and the ORT representatives thanked the Government and the people of the Central African Republic for the warmth of their welcome and the hospitality extended to them during their stay in Bangui.

BANGUI, October 30, 1969

ANNEX IV

LIST OF PARTICIPANTS

DELEGATIONS:

1. CAMEROON: Mr. Loung, Director of Higher Education
   Mr. Nya Ngatchou, Director of Human Resources
2. C.A.R.: Mr. Gleizes, Director, Bangui Lycée Technique
   Mr. Grisoni, Director of Tourism, Bangui
   Mr. Mackpayan, President, Chamber of Commerce, Bangui
3. CHAD(1): Mr. Adoum, Director General of Higher Education
   Mr. Michel, Chief, Technical Education Service
4. CONGO (Brazzaville)(2): Mr. Sega
5. GABON: Mr. M'Boro, Director, Ministry of Labor
   Mr. Mihindou, Director of Technical Education

SECRETARIAT:

UDEAC: His Excellency Charles Onana Awana, Secretary General, UDEAC.
Mr. Michel Anchouey, Deputy Secretary General, UDEAC.

ORT: Mr. E.B. Abrams, Director, Technical Assistance Department
Mr. S. Guedj, Assistant to the Director, Operations Department

OBSERVERS:

Mr. M. Bigoundou, UDEAC
Mr. G. Oyaya, UDEAC
Mr. J. McLaughlin, Regional AID Officer, Yaounde
Mr. R. Ellert-Beck, AID, Dakar
Mr. Ph. Maslin, F.A.C.
Mr. Cannas, I.L.O.
Mr. Goren, Israeli Embassy
Mr. D. Cohen, Chief of Party, AID/ORT, Bangui

(1) Non-member of UDEAC
(2) Observer